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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT

EA COVER SHEET

EA Update and Addendum (#2)

May 9, 2003

RESOURCE AREA: *Grants Pass*

EA# OR110-99-28

ACTION/TITLE: *Granite Horse Landscape Management Project*

LOCATION: *T34S, R5W, Sections 15, 19, 20, 21, 29, 30, 31;*

T34S, R6W, Sections 22, 23, 26;

T35S, R5W, Sections 3, 4, 5, 7, 8, 9, 10, 11, 15, 17, 18, 19, 20, 21, 29, 31, 33, 34;

T35S, R6W, Sections 12, 13

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Granite Horse Landscape Management Project
EA #OR110-99-28
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I. Introduction and Background

This EA update / addendum proposes and evaluates various changes to the proposed actions presented in the February 2000 Granite Horse Landscape Management Project Environmental Assessment (EA). These updates and changes have resulted from new project planning considerations identified since the EA was prepared, the completion of additional resource surveys, and a focusing of some aspects of the proposed actions in an effort to better achieve project objectives. The organization of this update / addendum parallels that of the EA in order to facilitate correlating the two documents and understanding where the updates and changes have taken place. The two documents must be considered in concert with one another.

II. Proposed Action Modifications

A. Proposed Action: Riparian Reserve Treatments (EA, p. 5)

1. An additional riparian reserve treatment objective is added:

- Reduce the fuel hazard and risk of a severe stand replacing wildfire in the riparian reserves.

2. Replace EA Table 2-2 with Table A-2-2 below. This updates stream type terminology to be consistent with that used in the Northwest Forest Plan (NFP). It also more specifically addresses management actions pertinent to the NMFS's designation of coho critical habitat.

Table A-2-2: Young Stand and fuel reduction treatments within Riparian Reserve - no treatment areas		
Stream type *	Applicable treatments	The proposed treatment area relative to riparian reserve widths
Perennial fish bearing, intermittent fish bearing, perennial non fish bearing, and springs	Precommercial thinning (PCT), brushing (BR) and understory thinning (UT)	There would be no cutting vegetation within 50 feet of the stream channel.
Intermittent non-fish bearing	PCT, BR, and UT.	There would be no cutting vegetation within 25 feet of the stream channel except for selected brush species and tan oak. (The species big leaf maple, dogwood, and elderberry and all conifers would be reserved from cutting.)
Perennial fish bearing, intermittent fish bearing, perennial non-fish bearing, springs, and intermittent non fish bearing	Thinning and chipping with the mechanical slashbuster.	There would be no slashbuster vegetation treatment within 50' of the stream channel. Slashbuster machine treads would be kept 75' from channel. In <i>Coho critical</i> habitat** the slashbuster would not cross any stream channels.

Table A-2-2: Young Stand and fuel reduction treatments within Riparian Reserve - no treatment areas		
Stream type *	Applicable treatments	The proposed treatment area relative to riparian reserve widths
Perennial fish bearing, intermittent fish bearing, perennial non-fish bearing, springs, and intermittent non fish bearing	Underburning	Burning within 50' of the stream channel would take place only as a backing burn and without direct ignition. The existing fuel hazard profile and density would be accepted within 50' of the channel. In <i>Coho critical habitat</i> ** burning within 150' of the stream channel would take place only as a backing burn and without direct ignition.
Perennial fish bearing, intermittent fish bearing, perennial non-fish bearing, springs, and intermittent non fish bearing	Burning piles	There would be no creating or burning of piles within 50' of the stream channel.
<p>* <i>Perennial fish bearing, intermittent fish bearing streams</i> were formally referred to as class 1 or 2; <i>perennial non-fish bearing streams</i> as class 3; and <i>intermittent non fish bearing</i> was formally known as class 4</p> <p>** <i>Coho critical habitat</i>: The relevant area is defined as streams 0.5 miles upstream from identified coho habitat. In the Granite Horse project, coho habitat is found only in the Louse Creek subwatershed (HUC 6). They are units 35S-5W-19-006, 35S-5W-20-001,002,003; 35S-5W-21-002, 003, 007; 35S-5W-29-001,002,003</p>		

B. Proposed Action: Vegetation Treatments in the Older Seral Stands (EA, p. 8)

The proposed treatments presented in the EA included a proposed logging system. These were identified in EA Table B-2 (EA, p. 70) along with the specific unit treatment proposals. The proposed harvest methods for units 35S-5W-05-002 and 35S-5W-08-001 are being changed from a combination of helicopter and cable logging to a combination of tractor, cable and helicopter logging systems. On these units, all harvest activities, road work and decommissioning would be completed within a single operating season and prior to the onset of winter weather.

This change is being made as it will make better use of the existing roads and skid trails. It will also provide the opportunity to decommission road #35-5-4.4B, a poorly constructed and currently eroding road. The decommissioning would include the restoration of the natural water flow across the old road subgrade.

C. Proposed Action: Prescribed Fire/ Fuel Hazard Reduction Treatments (EA p 11)

Recent experience in southwest Oregon has demonstrated the effectiveness of using excavators equipped with a booms and a hydraulic chipping/shredding head (*aka* “slashbuster”) to redistribute fuel loading and reduce fuel hazard. The machine mechanically shreds slash, standing dead material, small diameter trees and/or live vegetation. The treatment immediately and substantially alters the fuel profile. This reduces the immediate need for prescribed burning and would potentially result in lower burn intensities where prescribed fire is used. It can result in fuel conditions that make fire control easier in the event of a wildfire. Treatment costs are highly favorable as compared to the hand piling and burning treatments.

The EA (p. 12) indicated that mechanical fuels treatments might be used. Specific areas where a slashbuster machine would be used have been identified and are listed in Table A-3 and shown on revised Map A-2. Within these units where conditions meet the criteria described in the PDFs below, this treatment would be implemented in place of the previously proposed hand slashing and/or hand pile and burning fuel reduction treatments. Followup broadcast burns may be conducted on these slashbuster treated areas. Where followup low intensity (fall through spring) broadcast burning of the mechanically

treated areas is determined to be needed, it would be completed within the 5 year period after the mechanical treatment. This followup burn is to further reduce fuel loadings and to meet other treatment objectives.

Table A-3: Proposed Slashbuster Treatments		
Unit(s)	Slashbuster treatment acres (est. net)	Remarks
34S-5W-29-006,007,008	35	These 3 OI units form one 35 acre treatment area. They are adjacent to the Horse Creek power line area. Prescribed burning near the high voltage power lines could present a hazard to the power line due to the nature of the untreated fuel profile / loading. Slashbuster treatment prior to burning would reduce fuel hazard near the power line and would reduce the prescribed fire intensity if followup burning is needed.
34S-5W-29-005 34S-5W-30-008	229	<ul style="list-style-type: none"> - The proposed action is changed to: thin the suppressed 6 to 14" DBH trees and treat the understory vegetation as initially proposed for fuel reduction. Both the thinning and the fuel reduction work would be done mechanically with a slashbuster. - Implementation of the Horse Creek road decommissioning (EA Addendum #1) would be postponed until after this slashbuster / fuels treatment work is completed. - These units were initially proposed for commercial thinning and understory slash treatment. On a majority of the unit area, harvest volume / value of the trees to be thinned will not support the costs of helicopter logging and suitable access for ground based logging is not available. In order to accomplish the desired stand thinning and understory vegetation work, the proposed action is changed to use a slashbuster. Hand thinning and slash reduction would be prohibitively expensive.
34S-6W-35- 002	16	The objective of the slashbuster treatment is to reduce the potential hazard that prescribed fire (smoke) could present for I-5 traffic by reducing the potential need for followup burning and/or reducing the potential for smoke production if followup burning is needed. It would also broaden the burning window for followup burning.
35S-5W-5-001	6	Unit is adjacent to high voltage power lines. As noted above, burning near the power lines without first mechanically altering the fuel profile could present a hazard to them.
35S-5W-29-001	23	Unit is adjacent to Winona and Grouse Creek roads and residential areas. Slashbuster treatment is proposed to reduce hazard to these homes. <i>* Coho critical habitat is the southern boundary of unit.</i>
35S-5W-9-008, 011	19	This unit is adjacent to a high voltage power line. As noted for units above, mechanical treatment of fuels prior to burning would reduce the potential risk to / from the lines.
35S-5W-21-003	20	Unit is adjacent to Winona Road. The treatment objective is to reduce the fuel hazard near a residential area. <i>* Coho critical habitat along eastern edge</i>
Total Acres	348	
*Coho critical habitat - see Addendum Table A-2-2 for the proposed treatment area relative to the riparian reserve widths.		

The following project design features (PDF) are an integral part of the proposed slashbuster treatment:

1. The slash buster machine would be restricted to slopes less than 40%. Operating on occasional short pitches greater than 40% would be permissible.
2. Only low ground pressure (<4 psi) machinery equipped with semi-grouser tracks would be permitted. The shredding head would be mounted on an articulated boom of not less than 30' in

length.

3. Slashbuster operations would be permitted only when soil moisture content is (a) less than 20% at the 6" depth when working on non-serpentine soils, or (b) less than 20% at the 8-12" depth when working on serpentine derived soils.
4. Pre-existing coarse wood material greater than 10" diameter and snags would be reserved from slashbuster operations. To the greatest extent possible, the slashbuster operator would avoid damaging this material. If a snag is felled for safety reasons, it would be retained on site.
5. No mechanical operations would be conducted within special status plant or cultural site buffers. Chipping / shredding is precluded as is any movement of the machine through these sites. Chipped and shredded material would be kept out of these buffers to the extent possible.
6. Slashbuster work would *not* take place where 30% or more (areal extent) of the ground surface would result in exposed mineral soil (*i.e.*, no cover of shredded vegetation) after treatment. Conversely, slashbuster treatments would only be permitted where more than 70% of the ground surface would be covered by shredded vegetation after treatment. In all cases the operator would make every effort keep the machines tracks on shredded vegetation.
7. In order to reduce the potential for soil damage and soil seed bank loss due to high fire intensities, if slashing / chipping results in a chip depth 6" or greater over a one acre area, the chips will be raked and piled to reduce overall depth to less than 6".
8. In those portions of a unit where the slash buster is precluded from operating (*e.g.*, special status species buffers, areas of excessive slopes, no treatment zone of riparian reserves, etc.), slash/fuel treatments would be accomplished by hand in the manner indicated in the EA.
9. As stated in the EA, post treatment evaluations would be completed after each stage of vegetation treatment. This is to review fuel treatment effectiveness at that point and to update treatment prescriptions as needed. This would be done with an interdisciplinary ID team.
10. In all slashbuster treatment areas, 15 - 20% of each unit would be left untreated. Untreated areas would be at approximately one (1) acre in size and well distributed across the unit. This is to provide escape, hiding, thermal and nesting cover for a wide range of animal species and to provide suitable habitat for a range of botanical species until the treated area resprouts. The location priority for these untreated clumps in the moister micro-sites such as on northerly aspects or in land form depressions. These moister sites would have had a slightly different natural fire disturbance regime from areas around them and thus have the the best potential for brush/shrub species to attain a larger size with normal fire disturbance. Where they exist, no-treatment special status species buffers may be considered as "clumps" for this purpose.
11. Except for mining ditches, cultural / historical features would be buffered and the slash buster machine and treatment would be precluded from within the buffers. Vegetation treatment along the mining ditches would be accomplished with the requirement that the machine itself would be kept greater than 20' from the ditches. Any crossings of a ditch would be done only with specific prior BLM approval and would only be located at sites and in a manner that will avoid damaging or breaching the ditch.

12. In sites adjacent to main roads, a buffer of untreated brush / vegetation would be retained between the road and the treatment area. The slashbuster would be restricted to a single access point from the main road. Post-project, brush would be placed across the access point to discourage OHV use in the treatment areas.

13. Slashbusters would be precluded from crossing or operating on rock outcropping, cobble areas, mine tailings or talus areas. Additionally, the deposition of shredded material in these areas would be avoided to the extent possible. (Talus is broken rock forming a more or less continuous layer that may or may not be covered by duff and litter.)

A interdisciplinary team post-treatment fuels assessment would be conducted to determine if there is a need to burn in order to meet fuels reduction and stand / unit resource objectives (*e.g.*, wildlife habitat conditions). If necessary, the followup low intensity (fall/winter/spring) underburning of the slashbuster treated area would be conducted within a 5 year period after the mechanical slashbusting treatment is completed.

Any mechanically treated areas where *Ceanothus cuneatus* is the dominant vegetation would be broadcast burned regardless of fuel load or fuel hazard reduction considerations that might otherwise cause the unit not be broadcast burned. Burning would be done at the earliest opportunity within the 5 year period after slashbuster treatment so that the seed dormant in the soil is scarified for sprouting. In these areas, broadcast burning would not be conducted during the height of the spring reproductive period (approximately April 15 to July 15). The purpose of this is to produce the greatest habitat restoration benefit.

D. Proposed Action: Roads and Transportation Management (EA, p. 16)

1. Road Maintenance within areas of designated coho critical habitat

a. Road maintenance standards

Additional road maintenance standards are being added to the proposed action. These standards are designed to more specifically incorporate the terms and conditions and reasonable and prudent measures of the National Marine Fisheries Service's August 8, 2001 Biological Opinion for *Programmatic Activities Affecting SONC Coho Salmon, OC Coho Salmon, and OC Steelhead*. These additional standards would apply where coho or coho critical habitat could be affected. They are:

- a) Slide and waste materials would be disposed of in stable, non-flood plain sites. Any blading and shaping would be done to conserve existing surface material, retain the original crowned or out sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Wasting loose ditch or surface material over the shoulder would be avoided where it could lead to stream sedimentation.
- b) Soil-disturbing maintenance activities would be done during the dry season / conditions. Any instream work will be done between June 15 and September 15 in accordance with Oregon Department of Fish and Wildlife's (ODFW) *In Water Work Timing Guidelines* (June, 2000).
- c) Power equipment would be refueled with a minimum of a 150-foot setback from water bodies.
- d) Water used in dust abatement activities would not be obtained from streams or pump chances

located within the Louse Creek or Morris Creek drainages.

e) All large wood would be retained in the stream channel during culvert cleaning activities.

b. Road maintenance within the Louse Creek drainage

Specific road maintenance and road protection work has been identified that would be implemented within the Louse Creek drainage. The objective of this work is to reduce the potential for adverse impacts to coho or coho habitat by road use and / or road maintenance within the areas of the designated coho critical habitat. This work would be completed at the earliest opportunity in conjunction with BLM's scheduled road maintenance work. (See Addendum #2, Table C)

2. Additional Road Work

The following road work is added to EA Table C (Proposed Road use, etc).

a. Renovate road 35-5-4.4 Segment A (0.3 miles)

Renovation would include road grading and construction of drainage dips. The natural gas crossing would be protected with geo-textile fabric and rock. The road would be blocked after logging operations are complete. The natural water flow pattern would be restored. This change is made in conjunction with the proposed logging system changes noted above.

b. Renovate an existing operator spur shown on revised Map A-2 as Segment B of road 35-5-4.4 (0.8 miles) and construct 1,200 feet of new operator spur.

Two temporary culverts would be installed at intermittent stream crossings on BLM land in Section 8. These would be removed when the logging is completed to restore the natural water flow pattern. The roads would be decommissioned after logging operations are completed. For units accessed by these roads, harvest activities, road work, and decommissioning would all be completed within a single operating season.

3. Helicopter landing in T35S-R5S, Sec 31(SW1/4NW1/4)

The EA identifies a helicopter landing in T35S-R5S, Sec. 31(SW1/4NW1/4). This was to be used when thinning / logging in Units 31-001, 002, and 003. However, recent construction of new homes directly adjacent to the landing location raises safety concerns about the flight paths and the condition of the haul road past the homes.

An alternative site has been identified on private property in T35S,R6W, Sec 36 (SE1/4SE1/4). The site is of sufficient size and has adequate road access.

F. Project Design Features (EA, p. 16)

1. Seasonal operation restrictions (EA, p. 18)

EA Table 2-3 outlines seasonal operating restrictions applicable to the Granite Horse project. The proposal is being changed to broaden the seasonal operating restriction to permit helicopter logging and log hauling from helicopter landings on selected roads outside of the May 15 to October 15 period, weather

conditions permitting. Selected roads with BST, crushed rock, grid rolled rock or pit run rock surfacing could be used for extended season hauling (see revised map A-2 for the location of these roads). If this occurs, road maintenance would be kept current and hauling would cease if the roads indicate any surface puddling or sediment runoff. Helicopter yarding would also cease if there is any puddling of water or runoff of sediment from helicopter landings. This extended season hauling would **not** be permitted on roads in the Louse Creek drainage due to the designated coho critical habitat.

II. Other EA updates / corrections and clarifications

Table A-4 lists other changes or clarifications to the EA identified since the completion of the EA.

Table A-4: Granite Horse EA Updates, corrections and Clarifications		
Unit or location	Element in EA that is addressed	Proposed change / Correction / Clarification
34S-05W-15-008, 34S-05W-21-006	Units not on the EA map, but are listed on the EA table for young stand treatments.	The primary treatment would be to reduce the density of the non merchantable sizes of conifers and hardwoods. (PCT)
34S-05W-19-003	Unit not in the EA Table B-3, but is shown on the map.	The proposed treatment is a wildlife habitat restoration burn.
35S-05W-18-002	Shown as a harvest area on the EA map.	Proposed treatment is changed to “No treatment”. The Timber Productivity Capability Classification (TPCC) has been updated and changed from Restricted(R) to Withdrawn(W).
Jump-off Joe Creek watershed.	The EA’s fisheries discussion of the Affected Environment section implies that there are coho throughout the Jump-off Joe watershed.	Anadromous fish in Jump-off Joe Creek are blocked by a natural waterfall in section 36. It is over one mile downstream from the closest proposed unit for timber harvest.
Older seral stage thinning in Riparian Reserves	Specific units were not designated in the EA	The only older seral stage thinning proposed within riparian reserves is in reserves in units 35S-05W-09-004, 005, 007. Thinning would be restricted to ≤12" DBH. A 75' no thinning area would be maintained along the streams. Canopy cover would be maintained at 60% or greater.

Chapter 3

Environmental Consequences

A. Introduction

This chapter focuses on the environmental consequences of changes proposed in this EA update / addendum. It supplements the environmental consequences discussions in the EA. The affected environment and the consequences of the no action alternative are only discussed here if the resource specialist has determined that an update or additional discussion is appropriate. If the EA's discussion is deemed sufficient, it is not repeated here. The discussion focuses only on site-specific environmental changes resource specialists view as potentially substantive.

B. Site Specific Beneficial or Adverse Impacts of the Alternatives

Changes to the proposed action / alternatives that are presented in this update / addendum are summarized as follows:

Fuel hazard reduction treatment changes:

- approximately 348 acres of slash buster treatment with followup low intensity burn replaces hand slashing, hand piling, and burning (i.e., pile burning, underburning, broadcast burning)

Road changes:

- 0.3 miles of additional road renovation
- 0.8 miles of operator spur drainage restoration and then the decommissioning and blocking of that operator spur.
- 0.2 miles of new operator spur construction and then the decommissioning and blocking of that operator spur.

Other:

- Riparian management
- Extended seasonal helicopter logging and hauling on certain roads
- Road maintenance work and standards near coho critical habitat
- A new landing location

1. Resource: Soil / Water

a. Environmental consequences

1) Alternative 2 and 3: Proposed Action

The following are comments about proposals that may have minimal localized differences of effects from those stated in the EA. All overall short term, long term, cumulative effects will remain the same as listed in Tables 3-2 and 3-3 of the EA. There would be no adverse impacts to temperature (303(d) listing) resulting from these proposals.

Slashbuster treatments: The slashbuster treatments are composed of two parts: First, the shredding of target vegetation, then broadcast burning within 1 to 5 years after mechanical treatments where fuels concentration require additional treatment. The total area of proposed treatment is approximately 348 acres plus some riparian reserve area. Units proposed for this treatment are either harvest units or fuel

hazard treatment units. The depth of shredded/chipped vegetation is anticipated to be 2 - 8".

The environmental consequences of these treatments to the soils consist of disturbance, compaction, and retarding plant growth rate:

(1) *Disturbance*, the mechanical displacement of surface mineral soil and duff and litter, may result in minimal local reduction of plant growth rate due to loss of organic matter. In the case of these proposals, soil disturbance would be minimal (<5% areal distribution based on observation).

(2) *Compaction* of soil can reduce plant growth rate due to increased soil density which reduces root growth. In this case all units are moderately to heavily vegetated which means that there should be sufficient treated vegetation/slash to cover the soil surface where the slashbuster moves. As the slashbuster moves over the shredded/chipped vegetation, compaction is usually not evident. An estimated 5% areal distribution of compaction is expected which is within the 12% level anticipated in the RMP.

(3) A *retarding of plant growth* could occur as a result of the additions of shredded slash to the soil surface as the material decomposes. This would be due to short-term nutrient sequestration, particularly nitrogen. It would also be due to separation of the mineral soil surface from the ground surface. There may also be a change in soil biological community makeup in response to changes of physical and chemical conditions in the soil media. The magnitude of these changes is expected to be slight because: a) much of this practice is being proposed on serpentine soil where growth rates are already slow due to elevated magnesium levels, and b) burning the shredded slash will release nutrients to the soil as well as substantially reduce the thickness of the surface mulch. In the long term, it is anticipated that sequestered nutrients would be released back into the system.

Extended helicopter logging and hauling season (October 15 and May 15): This could result in a slight increase in the potential sediment run-off from the roads and landings compared to the original proposal as due to a potential increase in operator discretion. BLM contract administration would minimize this.

New proposed helicopter landing: This proposal changes the location of a helicopter landing from a small existing building pad to a large cleared pad with little existing vegetation. Both locations are in the Louse Creek watershed. However, the new site is located in the upper part of a small tributary stream network that is interrupted by Highland Avenue and I-5. This change should not result in any additional sediment to the stream system over existing conditions as the site was previously cleared and no native soil remains. The existing drainage system for the site/pad will continue to handle surface runoff.

2. Resource: Vegetation

a. Environmental Consequences

1) Alternative 2 and 3: Proposed Action

The proposed action will cause the necessary disturbance to provide growing space for additional canopy layers to form. Brushing, precommercial thinning, and thinning in young stands will concentrate the moisture, light and growing space on fewer trees. The reduction of stand densities, with associated fuel treatments and the slashbuster treatments across the landscape will lower the probability of a stand replacement fire.

3. Resource: Fisheries / Aquatic

a. Affected Environment

Jumpoff Joe Creek is the major project area stream within the Jumpoff Joe Middle subwatershed. Near the project area, Jumpoff Joe Creek supports cutthroat. Anadromous fish are blocked by a natural waterfall in section 36, which is over one mile from the closest proposed unit for timber harvest. Chinook salmon are limited to the lower reaches of Jumpoff Joe Creek outside of the project area. Louse Creek is the major project area stream within the Louse Creek subwatershed. Coho, steelhead, and cutthroat trout are present in Louse Creek. Pacific lamprey and reticulate sculpin are also known to occur in these systems but their population distributions are not well documented. Coho salmon are federally listed as threatened and Pacific lamprey are a Bureau tracking species in Oregon.

Cutthroat are present in Shorthorn Gulch, a tributary to Jumpoff Joe Creek, approximately 0.25-0.5 mile from units proposed for timber harvest and adjacent to proposed wildlife habitat restoration burns. Jack Creek, a tributary to Jumpoff Joe Creek, is less than 0.25 mile from a fuel reduction treatment unit and contains cutthroat. Horse Creek, a tributary to Jack Creek, contains cutthroat and flows through timber harvest units. Cutthroat are present in Cove Branch Creek, tributary to Jumpoff Joe Creek. Cove Branch Creek flows through proposed timber harvest units.

Louse Creek, which contains coho, steelhead and cutthroat, flows adjacent to two fuel hazard treatment units and one timber harvest unit. Other treatment units are between 0.15-0.5 mile away from Louse Creek. Soldier Creek, a tributary to Louse Creek, supports steelhead and cutthroat trout. The closest timber harvest unit is approximately 0.65 mile away. Morris Creek, a tributary to Louse Creek, supports coho, steelhead and cutthroat trout. A fuel treatment unit is located less than 0.25 mile from Morris Creek, but the unit does not have any drainage flowing out of it.

b. Environmental Consequences

1) Alternative 1: No Action Alternative

Dense young hardwood stands in the intermittent draws (especially those dominant with tan oak) which are devoid of diverse structure would continue to be lacking in diverse structure. Fuel loading and the risk of stand-destroying wildfire would remain high. Such a fire could result in water temperature increases and sedimentation to the detriment of coho and coho habitat.

Coho critical habitat may be affected (even though minimally) if road maintenance standards do not account for the sensitivity of a sediment discharge to riparian areas near coho critical habitat.

Continued sediment delivery to intermittent creeks would continue at current high levels from the natural surfaced roads (See Appendix C, Table C-1). Survival and production of resident cutthroat trout in Cove Branch Creek would be adversely affected by the continued and likely increasing input of sediment.

2) Alternative 2 and 3: Proposed Action

Table A-2-2 more specifically describes operations and treatments within riparian reserves. It also

specifically addresses coho critical habitat and special measures to protect critical habitat. Treatments would occur at a specific distance from the stream channel based upon the treatment prescribed (i.e., PCT, brushing, fuel hazard reduction) and the method of achieving the desired results (i.e., slashbuster, burning, chainsaws).

The young stand thinning and fuel reduction proposed in the action alternatives would create a more diverse stand structure and reduce the risk of stand-destroying fire in the riparian reserve. Adverse effects to non-coho streams from thinning within the riparian reserve are anticipated to be highly localized, unmeasurable, negligible, and short in duration. For the streams that are greater than 0.5 miles away from coho critical habitat, the proposed no treatment areas would be sufficient to minimize sediment inputs from the activity as the duff layer will remain intact and serve to trap sediment. Sediment delivery produced from the proposed action would be negligible and not in a range that would affect the production or survival of salmonid. In riparian reserves that are less than 0.5 miles from coho critical habitat, the no treatment areas are wider and act to eliminate a mechanism for sediment delivery to the streams. There would be no effect to coho and coho critical habitat from the thinning and fuel reduction activities due to the distance from habitat and the short duration of the actions.

Vegetation levels along the streams would remain high and maintain shade due to width and placement of the designed no treatment areas. Bank stability would not be effected and no additional erosion is expected from the proposed action.

It is anticipated that the long term beneficial effects would include the maintenance of downstream salmonid production and survival. Increased canopy growth would contribute to lowering summer water temperatures. Increased recruitment of large woody debris into streams would improve channel complexity and rearing stream habitat. Improved rearing habitat would increase the survival of juvenile salmonid.

The fuel reduction proposed in the action alternatives would create a more diverse stand structure and reduce the risk of stand-destroying fire in the riparian reserve. Adverse effects to non-coho streams from fuel reduction within the riparian reserve are anticipated to be highly localized, unmeasurable, negligible, and short in duration. For the streams that are greater than 0.5 miles away from coho critical habitat, the proposed no treatment areas would be sufficient to minimize sediment inputs from the activity as the duff layer will remain intact and serve to trap any sediment. In the event that maintenance burning of slashbuster treated areas backs fire up to the stream channel, it would be on short, discontinuous segments. Sediment delivery produced from the proposed action would be negligible and not in a range that would affect the production or survival of salmonids. In riparian reserves that are less than 0.5 miles from coho critical habitat, the no treatment areas are wider and act to eliminate a mechanism for sediment delivery to the streams. A backing fire from outside of 150 feet would produce a mosaic burn pattern with an intact duff layer. There would be no effect to coho and coho critical habitat from the fuel reduction activities due to the distance from habitat and the short duration of the actions.

Vegetation levels along the stream would remain high enough to maintain local shade. Since only low ground pressure machinery equipped with semi-grouser tracks would be permitted, bank stability would not be effected and no additional erosion is expected from the proposed action.

Slashbuster discussion: There would be a larger window of opportunity to use the slashbuster on gentle sloped terrain then there would be to use prescribed burning. Reduction of the fire hazard would occur in a shorter period of time. The slashbuster would also would be used in areas that are adverse to prescribed burning. This would result in a reduction of the fuel hazard on more acres than prescribed

burning could accomplish.

The short and mid term risk of a severe fire within the riparian reserves would be reduced and there would be lower risk from the potentially adverse effects of a severe wildfire (e.g., sedimentation, temperature increases) to fisheries and aquatic resources.

Extended season helicopter logging and hauling: Any additional sediment delivery resulting from extended season hauling on surfaced roads would be negligible and would not adversely affect the production or survival of salmonid or any other riparian habitat dependent species. Hauling during the extended season would not effect coho and coho critical habitat because even if minute amounts of sediment were distributed on a damp running surface, there would be no mechanism for sediment delivery to coho habitat.

Sediment delivery produced from extended season helicopter logging would be nil and not in a range that would affect the production or survival of salmonid or any other riparian habitat dependent species.

Road maintenance standards: There may be minor amounts of sediment released to streams as a result of culvert cleaning on the segments within ½ mile of coho critical habitat (See Table C-1, Appendix C). These are expected to be negligible, short term in duration, and indistinguishable from background levels. Any sediment disturbed near the culverts in intermittent streams would be mobilized during winter high flows and would likely be undetectable in the coho habitat due to the volume of flows and the distance from the source of disturbance to the habitat downstream. See Section (D)(1)

Proposed logging method change: The intermittent streams located within the proposed harvest units drain to tributaries of Cove Branch Creek. Resident cutthroat trout are present approximately 0.5 miles downstream of the proposed actions. There are no coho salmon or other anadromous fish closer than approximately 4 miles downstream in Jumpoff Joe Creek. No effects to fish are anticipated from the proposed tractor logging as tractors will neither enter nor remove logs from the riparian reserve. The riparian reserves will continue to filter sediment from any potential erosion from water runoff.

Operator spur construction and decommissioning: Temporary spur road construction and decommissioning (34-5-4.4B) would be likely to input small amounts of sediment to an intermittent stream which drains unit 001 of Section 8 (Cove Branch Creek drainage). Construction and removal of the temporary stream crossing in the same dry season would limit sediment delivery from disturbed soils during high winter flows.

The decommissioning of the existing degraded road (35-5-4.4B) which runs uphill from the powerline easement would reduce the currently high sediment inputs to the intermittent streams which drain unit 002 in Section 5. The grading needed to decommission this road and return runoff flows to the natural stream channels would be done in the dry season. As a result, the disturbed material would be mobilized primarily during the following winter season. The effect on fish from the sediment delivery of the above actions would be discountable, as the nearest habitat is approximately 0.5 miles downstream and the duration of the sediment input would be very short. Salmonid production and survival would be maintained at current levels.

New landing proposal: No effects to fisheries from the proposed road use and landing construction are anticipated. Project PDFs would prevent sediment from entering the intermittent stream. There would be no effect on coho or coho critical habitat as the nearest habitat is over 1 mile downstream in Louse

Creek.

Summary of Essential Fish Habitat and the Granite Horse project and addendums: The Magnuson-Stevens Act designates Essential Fish Habitat (EFH) for coho and chinook salmon. Portions of the proposed project occur within EFH for coho. Actions which have the most potential to produce adverse effects are underburning, road maintenance or renovation, thinning in the riparian, and the use and decommissioning of landings and skid roads in the riparian reserve. The project design features and best management practices adequately mitigate or eliminate the potential adverse effects to EFH.

4. Resource: Botany

a. Affected Environment

(**Note:** This is a revision of the EA's botany affected environment and discussion of impacts. It is being revised to incorporate the botanical survey results completed since the EA was initially prepared.)

Habitats within the project area are quite diverse due to the variety of substrates present (including peridotite rock outcrops and serpentine soils) and the variety of aspects (which provide a wide range of moisture regimes). In the forested habitats, plant associations range from predominantly Douglas-fir-Black Oak/Poison Oak to Douglas-fir-Oregon Grape/Swordfern, Douglas-fir-Oceanspray/Whipplevine and Douglas-fir/Dry Shrub. These associations can provide habitat for the Bureau Sensitive, *Cypripedium fasciculatum*. Six populations were located within the project area.

The serpentine soils and peridotite rock outcrops provide habitat for a number of special status species. The Bureau Sensitive species, *Camassia howellii*, has only been found in the Jumpoff Joe and nearby watersheds. It has not been found in the Illinois Valley where most serpentine endemics exist which makes it quite unique in the project area. Project surveys located more than 40 populations, some quite extensive in size. Most located populations are within wildlife habitat restoration treatment areas or hazardous fuel reduction areas. A few were located on the edges of proposed harvest units.

Other serpentine-related special status species found: one population of *Lewisia cotyledon* var. *howellii* (Bureau Sensitive), one population of *Limnanthes gracilis* var. *gracilis* (Bureau Sensitive) one population of the lichen, *Pseudoleskeella serpentinense* (Bureau Sensitive), one population of *Cryptantha milobakeri* (Bureau Assessment) and two populations of *Silene hookeri* ssp. *bolanderi* (Bureau Assessment). The *Lewisia* population occurs on a serpentine rock outcrop along a proposed hiking trail. The other species occur in areas proposed for fuel hazard reduction.

1) Special Status Species

Cypripedium fasciculatum (CYFA) habitat occurs primarily on moist, northerly aspects (anywhere from west to north to east slopes) in forests with 60 - 100% canopy closure. This orchid species is very long-lived, perhaps as long as 95 years (Mgmt. Recommendations 1998), can take up to 15 years to emerge above ground, does not emerge every year and requires specific mycorrhiza for germination and establishment. *C. fasciculatum*'s range extends from central Washington to northern California with some scattered populations in the Rocky Mountains.

Camassia howellii (a Bureau Sensitive species) occurs on open, sparsely vegetated serpentine areas or openings in forests on non-serpentine soils. Populations are especially large on the slopes of Mt. Sexton and towards the head of Horse Creek. Although plentiful in the project area, its range is extremely small (its type locality is the Grants Pass area and it has not yet been identified in the Illinois Valley).

Lewisia cotyledon var. *howellii* can occur on either serpentine or non-serpentine rock outcrops especially those adjacent to oak woodlands. Its range is the Klamath-Siskiyou region and is probably more threatened from recreationists than any land treatments. *Pseudoleskeella serpentinense* also occurs on serpentine outcrops but is not located near areas of compaction and disturbance from motorcycles and horse riding trails.

Limnanthes gracilis var. *gracilis* occurs in ephemeral wet grasslands in the Rogue and Illinois Valleys. This species is a rare component of native valley habitats and could be considered an indicator species for the health of native wet grasslands.

Populations of *Silene hookeri* var. *bolanderi* have not been identified by a botanist in the area for some time. It, and *Cryptantha milobakeri*, occur in serpentine grasslands in the vicinity of Mt. Sexton. They appear to be getting out competed by exotic annual grasses. In the project area, they are found in hazard fuel reduction/habitat restoration areas.

A portion of the Granite Horse project area contains diverse biological soil crusts (T34S, R5W, Sec 30, Units 006 & 007). Although no special status species were found on these crusts it is noteworthy that they were found. Biological crusts are rare in southwestern Oregon and are usually found on serpentine soils. They are located in areas where no past ground disturbance has occurred.

Noxious weeds are of a concern in the project area for two reasons. First, noxious weeds were found concentrated in the usual disturbed areas such as landings and skid trails, but also along the power line in Sections 20 and 29. This power line is acting as a conduit for both yellow star thistle and scotch broom, which can overgrow special status habitat. Secondly, the amount of exotic annual grasses in the project area is high, especially in all the serpentine grassland communities. These grasses were noted to be a problem at least for one special status species (as mentioned above).

b. Environmental Consequences

1) Alternative 1: No Action

The effects of the No Action alternative on Survey and Manage or Special Status species would be both beneficial and adverse. Canopy closures and the limited moist microsites would be maintained as well as mycorrhizal connections. However, the risk of severe wildfire is continually increasing which, when one occurs, there could be potentially adverse effects on special status species. Individual *Cypripedium fasciculatum* populations, a species shown not to survive such fires, could be threatened (Management Recommendations 1998). Threats would be increased for lichen species as well. Special status plant habitat would continue to be invaded by exotic annual grasses.

2) Alternative 2 and 3: Proposed Action

The proposed actions would have no effect to the federally listed *Lomatium cookii* and *Arabis macdonaldiana* because they will take place outside of their range. The project area does occur within the range of *Fritillaria gentneri*, but complete surveys for this species found no populations. Therefore, there will be no effect on this species, either.

Recreation trail management - If the trail passes through an area slated for habitat treatment (*i.e.* prescribed burning to reduce exotic grasses), horse use could result in the introduction of more exotic grasses on newly disturbed areas. In rocky areas, the trail could jeopardize some of the sensitive rock dwelling species from off trail use.

Riparian Treatments - Riparian reserves are primary habitat for non-vascular species. The substrate for lichens and bryophytes can be the trees (especially hardwoods) and shrubs within riparian areas. Connectivity of habitat is very important for such species. Retaining standing trees within these reserves could maintain this connectivity as well as suitable microclimate for non-vascular species. These trees will also act as refugia and will provide the complex canopy structure required to protect species diversity, moist conditions and to act as dispersal centers for riparian-dependent species. Table A-2-2 specifically describes operations and treatments within riparian reserves. Treatments would occur at a specific distance from the stream channel based upon the treatment prescribed (*i.e.*, PCT, brushing, fuel hazard reduction). The variety of treatments and the limited portion of the riparian reserve that would be treated would maintain diversity within the riparian reserve portion of the landscape. The removal of small pre-commercial sized trees and shrubs could allow for a more open condition in the understory of the riparian area, which could be beneficial to some species of lichens.

Special Forest Products and Young Stand Treatments/Forest Development - Lichens and bryophytes, as mentioned under Affected Environment, tend to grow on hardwoods under conifer canopy. No substantive effects are expected to occur, however, because PDF's will be used.

Stand Harvest Treatments in the Older Seral Stages - The overall potential impact to botanical resources is in direct proportion to the amount of habitat affected by treatment both with regard to the number of acres treated, the size of intact habitat treated and the extent of post treatment habitat available for re-establishment. For example, the Management Recommendations state that size and quality of habitat are important factors for the survival of *Cypripedium* species. Therefore, when assessing treatment alternatives for effects on botanical resources, the most important aspects to review are the number of acres that will have ground disturbance taking place and the type of disturbance. The variable of importance for the Granite Horse project is the type of disturbance taking place for each alternative, because structural retention will reduce canopy closure more than commercial thinning.

For all alternatives, while short term, direct effects may be mitigated by the procedures outlined in the PDFs, long term, indirect effects could include a reduction in population size and productivity of individual *Cypripedium fasciculatum* populations within protection buffers. There is no definitive information regarding the efficacy of the buffers in the long run. Disruption in mycorrhizal connections could be detrimental over an extended period of time to the productivity of the population. If such effects were to occur, they would not be such as to lead to the need to list this species because there are enough populations currently known throughout its range.

Indirect effects could occur from harvesting in potential habitat (*i.e.* moist forest habitat) for *Cypripedium fasciculatum*. These effects are compounded due to the naturally fragmented, sparse nature of potential habitat in the project area. Whether the treatment is commercial thinning or structural retention, the ground disturbance from such activities could be detrimental to any individuals that may be dormant presently or to establishment of new populations from intact habitat. This is because the treatments would disrupt the mycorrhizal connections necessary for the productivity of these individuals or populations. Also, depending on the treatments, the canopy would be opened to varying points that could alter microsite conditions from moist and shady to more open and dry.

Alternative 2 - Alternative 2 would reduce the canopy closure in areas within some of the older harvest units to levels between 25 and 40 %. Such a canopy reduction would not be uniform across the landscape, however, due to the mosaic of treatments and subsequent stand conditions (e.g., spotted owl management areas, red tree vole reserves, riparian reserves with limited treatment zones, and a mosaic patterns of treatment within the older stands). Late-successional habitat quality for some species could be affected. Opening the canopy to less than 40% closure could reduce the extent of moist microsites and would disrupt mycorrhizal connections at a similar percentage in all mature stands (identified in Table B-2), especially those slated for structural retention. This could affect potential habitat in these units for *Cypripedium fasciculatum*. If such effects were to occur, they would not be substantive enough to lead to the need to list this species, because there is enough populations currently known throughout its range.

Alternative 3 - This alternative would reduce the effects of canopy closure reductions in some of the harvest stands. Canopy closure would be retained at a higher level. This would maintain a higher level of moisture retention, hence the quality of moist habitat would be higher for those species in the project area that are noted above.

Fuel Hazard Reduction Treatments and Wildlife Habitat Restoration/Enhancement - Low intensity fire would be beneficial to most vascular and non-vascular S&M or special status species. The specific units listed do include populations of the species, *Camassia howellii* and undisturbed cryptogamic crusts. The project's PDFs will be effective in maintaining these areas.

Cumulative effects of the action alternatives

Most of the BLM Matrix land with merchantable timber in the Jumpoff Joe Watershed is or will be included in landscape projects with timber activities. This can also be said for BLM Matrix land in adjacent watersheds. In southwestern Oregon, no official habitat assessment has been done, but of the known *Cypripedium* population sites on BLM land, the majority are being affected by timber projects through canopy thinning, ground disturbance and habitat fragmentation. Of the known populations, the majority are being protected through buffers that have not been proven to ensure viability for a specific population.

The reasonable foreseeable future actions that will take place in the Matrix and on county and private land would include continued timber harvest, understory treatments and clearing of forest land for development. More special status populations would continue to need buffering as more actions are planned on federal lands. Populations on non-federal lands will most likely remain unprotected. The potential long term effect is a decrease in the ability of populations to maintain or to expand from these small islands of undisturbed ground into surrounding altered habitat. This would decrease the potential for persistence of these individual populations in southwestern Oregon.

Effects of Slashbuster treatments

This effects analysis was prepared after review of several completed slashbuster units and additional field surveys for *Fritillaria gentneri* were completed. The following general observations were made of areas treated with a slashbuster:

- The reduction in canopy cover varied from unit to unit. Units where canopy hardwood trees (oaks, madrones) were maintained at higher levels (perhaps 30-40%) and shrubs were removed for 30' around hardwood trunks showed a healthier understory with more native grasses present. Native grasses seemed more common under the canopy of hardwoods.
- In recently treated units where dense brush existed, bare soil was common, especially on slopes, where tracks from the slashbuster machine could be seen from a distance. Canopy was greatly reduced. Slashbusting of brush left no herbaceous layer, most likely because not much of a layer existed before treatment due to densities.
- In older units, a high percentage of weedy species were present in the understory, especially where the canopy was greatly reduced (i.e. 10 - 20% coverage left) and native grasses were not seeded in after burning.
- In units where burning did not take place, germination of understory species seemed impeded by depth of slash left.
- In units where madrones were treated, intense sprouting took place where high levels of brushing would be required to maintain fuel reduction objectives. Manzanita and buckbrush both appeared to come back in from seed; not from re-sprouting.
- Units where clumps of vegetation were left to create a mosaic (versus units where canopy was reduced consistently across the landscape except for draws) showed higher potential for a healthy diversity of habitats. These units seemed to replicate the pattern of the natural fire regime before the suppression era rather than the industrial, equal spacing of the other units.

The project's PDF's should help to maintain the mosaic of vegetation. This will be beneficial to maintaining habitat and hence, species diversity across the landscape.

The fire-related effects of slashbusting on native vegetation could be both positive and negative. By broadcasting slash instead of handpiling it, conditions for prescribed burning would better replicate natural, low intensity burns, as long as the slash layer is not too thick. A thick layer (> 6") of chips created by the slashbuster may create high intensity fire which could damage the soil and seedbed to a point where species in the herbaceous layer would have difficulty re-establishing. It could also inhibit the germination of native species. The PDF to reduce chips created by the slashbuster where depth is greater than 6" over a one (1) acre area, will reduce the potential for this effect to occur.

In section 35, slashbusting plus broadcast burning in the grassy openings may promote non-native species invasion into a larger portion of the section than already exists.

Proposed Mitigation Measure #A2-1: After slashbusting and follow up burning, native grass seed would be distributed in areas after treatment where non-natives are now the dominant grassland species.

Slashbusting Cumulative Effects - It appears that due to its economics, slashbusting will increase across the landscape. It seems to be an ideal tool for reduction of dense hazardous fuels, but if treatments continue to follow the equally spaced, low canopy coverage prescriptions used in some cases, the landscape may become very homogeneous. A reduction in species diversity due to reduction in habitat diversity could occur. An increase in noxious weed invasions could also occur.

Definitions/Management recommendation

* Mycorrhiza are underground fungi that provide a close physical association between the fungus and the roots of a plant, from which both the fungus and plant appear to benefit. A mycorrhizal root takes up nutrients more efficiently than one not associated with mycorrhiza. Mycorrhizal fungi (also known as ectomycorrhizae) are essential for host plant nutrient uptake and play important roles in nutrient cycling in many forests. Studies from the Pacific Northwest indicate that forest management activities can reduce populations of mycorrhizal fungi and forest regeneration success (Luoma, Eberhart, Amaranthus 1997).

Management recommendations have been based on the Record of Decision (ROD) Northwest Forest Plan, the Medford District Resource Management Plan, the BLM Manual 6840, Medford District botanist advisement and professional knowledge.

References cited:

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Wells, T.C.E. The Biological Aspects of Rare Plant Conservation - Population Ecology of Terrestrial Orchids. Wiley and Sons Ltd. 1981.

Wogen, N.S. et.al. Management Recommendations for Vascular Plants. USDA/BLM. 1998.

6. Resource: Wildlife

a. Alternative 2 and 3: Action Alternatives

Riparian reserve treatments - The proposal to increase the no treatment zone within riparian reserves of perennial and fish bearing stream from 25' to 50' for young stand or fuel hazard reduction understory thinning would reduce the level of impacts previously anticipated. On intermittent non-fish bearing streams, some areas of the no treatment zone would be decreased from 50 to 25'. No substantive additional adverse impacts would be anticipated as overall habitat conditions would remain largely the same.

Slashbuster treatments - The change from manual fuel reduction to the use of a slashbuster on approximately 348 acres would alter the previously anticipated impacts particularly with regard to songbirds. The proposed seasonal operating restrictions for slashbuster use would limit the activity to the spring when a majority of resident and neotropical birds are nesting. Nesting success could be adversely impacted at the local scale due to direct damage or displacement of birds to adjacent areas. Displacement to adjacent occupied nesting habitat would likely increase competition such that reproductive success would be reduced. Nesting quality would return as vegetation regrows in the treated areas.

Slashbusting is not anticipated to have negative effects to survey and manage species or species listed under the ESA.

7. Resource: Fire and Fuels

a. Alternative 2 and 3

Fire hazard reduction: The mechanical shredder / slashbuster cuts and shreds vegetation up to 16" in diameter into pieces ranging from <2' in length and <4" in diameter. This results in an immediate reduction in fuel hazard by substantially altering the fuel profile. Treatment creates a compact fuel bed 3" to 12" in depth. Heavy fuel concentrations are effectively chipped and scattered over a wide area reducing fuel bed depth. This would alter wildfire behavior to a low intensity ground fire with low to moderate rates of spread. Control and suppression of wildfire would be improved. The intensity / severity of both wildfire and prescribed fire would be reduced. Suppression and prescribed fire costs would be less on units treated with the slashbuster.

Safety: Reducing the potential wildfire or prescribed fire intensity is beneficial in urban interface areas such as the Granite Horse project area for the following reasons:

1. Property values at risk - There are many residential structures in close proximity to the treatment units.
2. The Interstate 5 corridor runs through the project area. If uncontrolled smoke drifts across the roadway, there would be a serious visibility hazard to motorists.
3. Heavy smoke drifting through the high voltage power lines in the project area could create arcing of the electrical charge between the lines and the ground. Fire personnel could be electrocuted.

Relative costs: Slashbuster costs are highly favorable as compared to the cutting, hand piling, and burning treatments. The cost of using a slashbuster is \$200 to \$350 per acre plus a potential need to complete a future low intensity burn at approximately \$100 per acre. Manual / chainsaw fuel hazard reduction work often costs \$1000 to \$1500 per acre.

Air Quality: Treating fuels with a shredder / slashbuster would reduce potential emissions due to fewer acres being burned and because such a treatment can broaden the window for prescribed burning allowing its timing to lessen potential impacts to air quality.

8. Resource: Recreation, Cultural and VRM

a. Affected Environment

Historic sites in the Granite Horse project consist of placer mining features and ditches. The Horse Creek Placer Mine (recorded site) includes placer workings along Horse Creek, hydraulic mining ditches, trench cuts and a can dump. There is also evidence of past chrome mining in the area and also the Sexton to Grants Pass telephone line.

The project area is currently used by off highway vehicles (OHVs), especially along the power line road which runs North/South through the entire project.

b. Environmental consequences

1) Alternative 1: No Action

There would be no affect from slashbuster activities to the mining features or other historic sites. The features/sites would remain as is, with no disturbance near the sites. Visuals would remain similar with increased underbrush density over time. Current OHV use patterns would continue.

2) Alternatives 2 and 3

The historic / cultural sites would be buffered to protected them from disturbance during slashbuster activities. No impacts are anticipated to the mining ditches from the action. However, if a mining ditch is crossed by the slashbuster and the berm or earth is redistributed, the existing integrity of the ditch would be changed.

Fuels treatments in these units will decrease the chance for a large wildfire which could destroy cultural artifacts. Slashbuster treatments versus controlled burns would decrease the chances for destroying historic wooden features. Also, future burning in slashbuster units would consist of a lower intensity burn. This would have less of a chance to escape and damage historic wooden features.

VRM - Visuals would remain similar with less underbrush density. Potential visible effects would include negligible additions to the patterned shapes that already exist. patterned shapes would increase from the machine work patterns. This may increase the casual observer's tendency to be drawn to the units when driving on Interstate 5.

OHV use may increase if the treated area as a result of increased accessibility.

9. Resource: Roads and Transportation

a. Affected Environment

Unit 8-1 within T35S, R5W, Sec 8 currently has poor road access. The current road accessing the area is old road (35-5-4.4) that was used for timber haul during the 1950s and 1960s. A segment (MP 0.30 - 1.10) of it is not passable. Past and present water erosion has cut through the center of the roadbed and gullies are 10' wide by 4' exist at some points.

b. Environmental Consequences

1) Alternative 1: No Action

Vehicular access to unit 8-1 would continue to be unavailable. This would limit logging methods to helicopter yarding with long flight times. Erosion and sedimentation would continue on Road 35-5-4.4

2) Alternatives 2 and 3: Proposed Action

Road reconstruction and improvements in the road drainage system would have short-term site-specific minimal erosion and sedimentation yield but in the long term would decrease the current amount of erosion and sedimentation yield.

Road access provides an opportunity for more advantageous landing locations and for administrative access to the associated BLM lands. It decreases the turn time for a large portion of the harvest units

and would be significant in reducing overall logging costs. Long-term management of the land, including any future fuels reduction needs, future fire suppression activities, and future restoration projects would benefit.

10. Resource: Forest Management and Harvest / Logging Systems

A) Alternatives 2 and 3

Providing for limited extended yarding and hauling would increase the amount of available operating time. Changing the proposal to permit tractor yarding on approximately 140 acres (portions of 2 units) would reduce overall logging costs and, potentially, timber sale viability and, in turn, the potential to accomplish the density reduction / forest health treatment proposed.

Chapter 4

Agencies and Persons Consulted

A. Public Involvement

Scoping for the Granite Horse project was initiated in July 1998. The initial EA was made available for comment in March 2000. All comments received throughout the project planning process will be considered as a part of the project's decision process.

The following agencies were consulted during the planning process: Josephine County, United States Fish and Wildlife Service, National Marine Fisheries Service.

B. Availability of Document and Comment Procedures

The public will be informed of the availability of this document through a legal notice published in the Grants Pass Courier and a mailing to individuals or organizations who have previously indicated an interest in this project. Copies of this Addendum will be available for formal public review in the BLM Medford District Office, on the Medford District's website (www.or.blm.gov/Medford under planning documents), or upon request.

A formal 30 day public comment period will be initiated by an announcement of the EA's availability in the Grants Pass Daily Courier newspaper.

Written comments regarding this project or EA, should be sent to Abbie Jossie, Field Manager, Grants Pass Resource Area, Bureau of Land Management, 3040 Biddle Road, Medford, OR 97504 or they may be emailed to or110mb@or.blm.gov. If an individual would like to comment, but confidentiality is of concern, please be aware that comments, including names and addresses of respondents, will be available for public review or may be held in a file available for public inspection and review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this clearly at the beginning of your written comment. We will honor such requests to the extent allowed by law. All submissions from organizations or officials of organizations or businesses will be made available for public inspection in their entirety.

Appendix A: Project Maps

Project Area Map

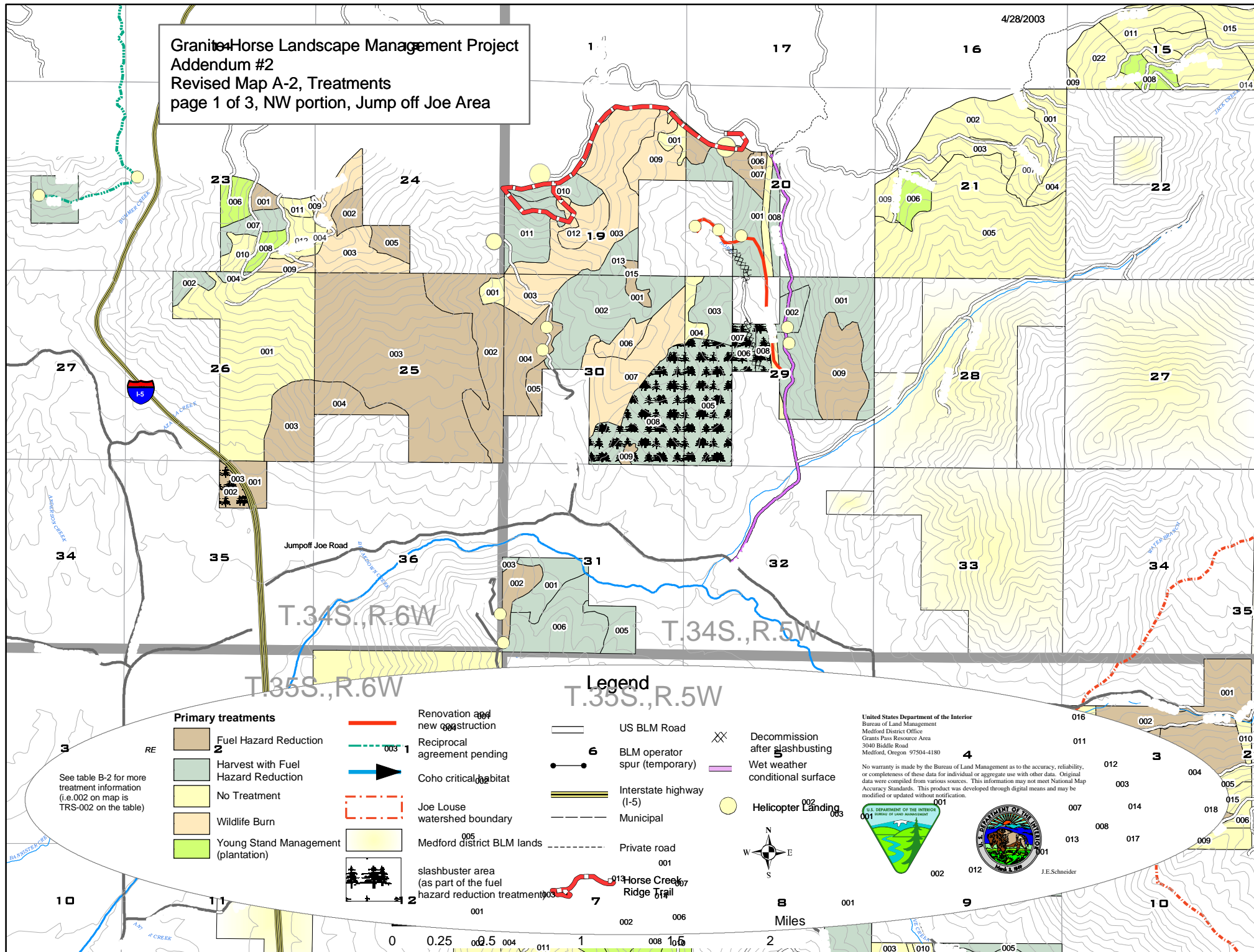
Revised Map A 2

Page 1 of 3 Treatments- NorthWest Area

Page 2 of 3 Treatments- Middle Area

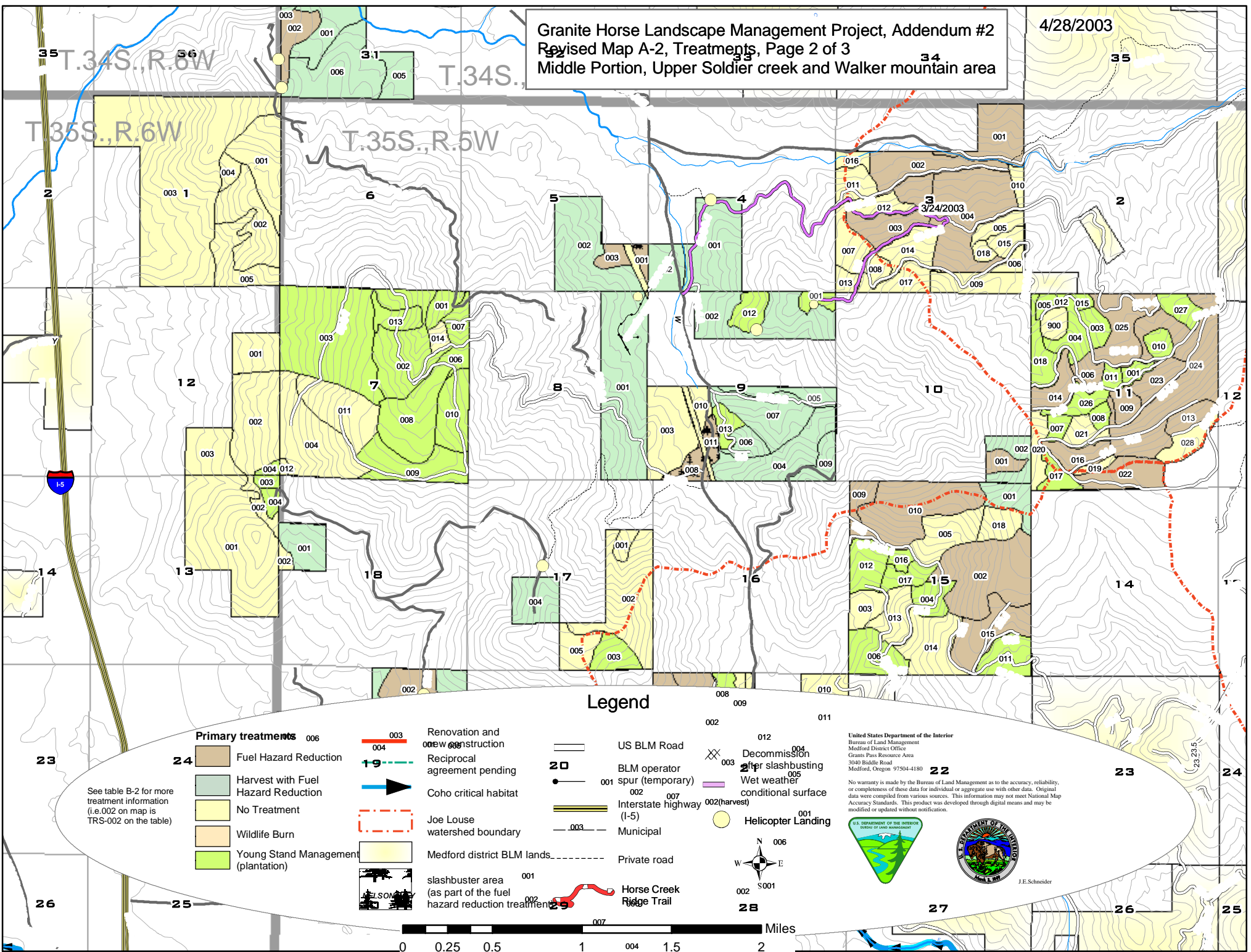
Page 1 of 3 Treatments- South Area

Granite-Horse Landscape Management Project
Addendum #2
Revised Map A-2, Treatments
page 1 of 3, NW portion, Jump off Joe Area



Granite Horse Landscape Management Project, Addendum #2
 Revised Map A-2, Treatments, Page 2 of 3
 Middle Portion, Upper Soldier creek and Walker mountain area

4/28/2003



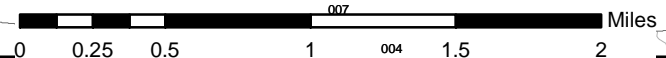
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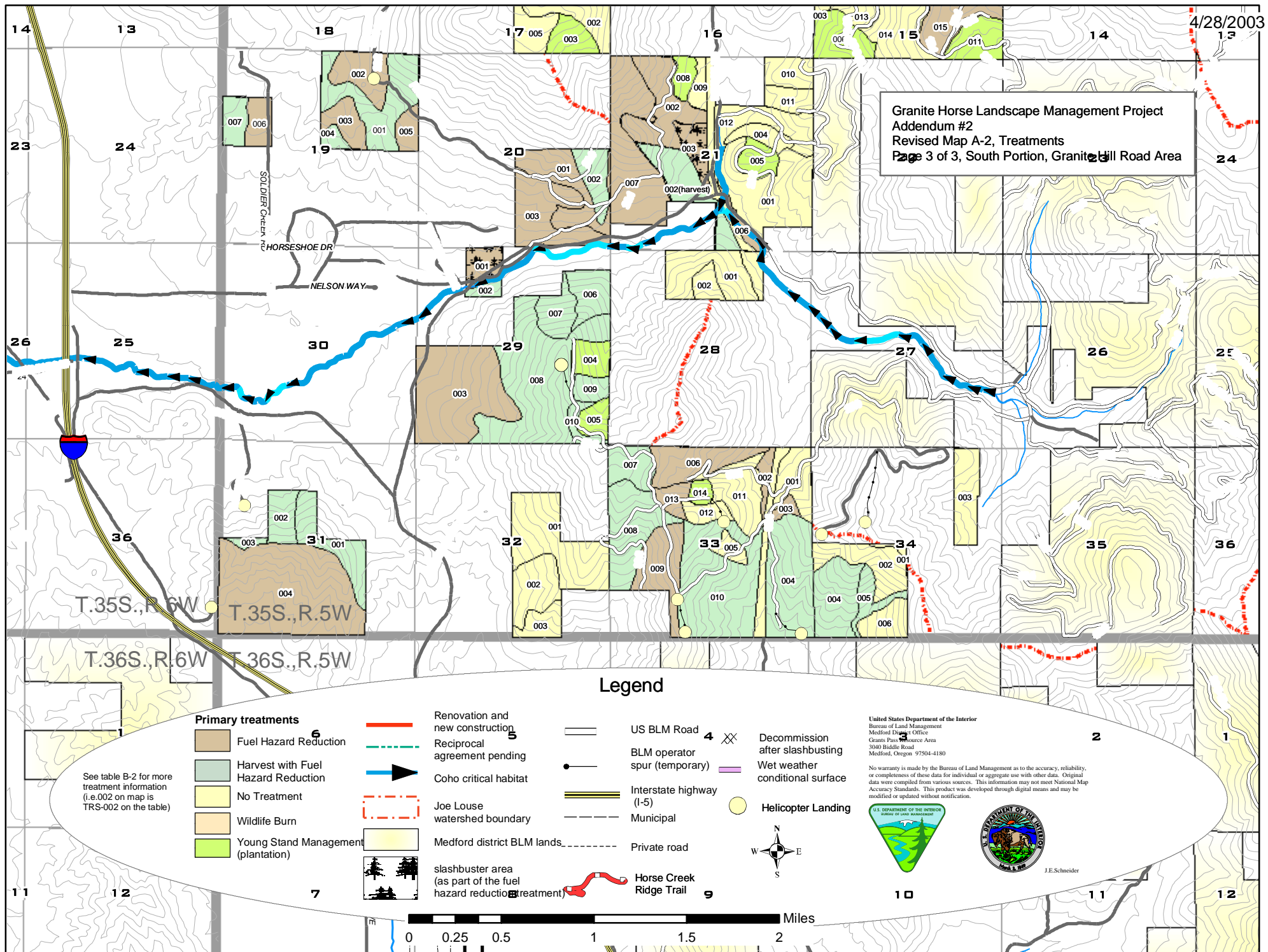
- | | | | |
|--|--|--|--|
| <p>Primary treatments</p> <ul style="list-style-type: none"> 003 Fuel Hazard Reduction 004 Harvest with Fuel Hazard Reduction 005 No Treatment 006 Wildlife Burn 007 Young Stand Management (plantation) | <ul style="list-style-type: none"> 008 Renovation and new construction 009 Reciprocal agreement pending 010 Coho critical habitat 011 Joe Louse watershed boundary 012 Medford district BLM lands 013 slashbuster area (as part of the fuel hazard reduction treatments) | <ul style="list-style-type: none"> 014 US BLM Road 015 BLM operator spur (temporary) 016 Interstate highway (I-5) 017 Municipal 018 Private road 019 Horse Creek Ridge Trail | <ul style="list-style-type: none"> 020 Decommission after slashbusting 021 Wet weather conditional surface 022 Helicopter Landing |
|--|--|--|--|

United States Department of the Interior
 Bureau of Land Management
 Medford District Office
 Grants Pass Resource Area
 3040 Biddle Road
 Medford, Oregon 97504-4180

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J.E. Schneider





Appendix B: REVISED Proposed Treatment Tables

Tables A2-B-1, A2-B-2 and A2-B-3 **update and replace** the proposed treatment tables in the EA. These tables should be used in conjunction with revised Map A-2.

TABLE A2-B-1: Summary of Proposed Silviculture Treatments in Early Seral Stands								
T-R-Sec - OI	Proposed Treatment			Land Alloc.	TPCC	Stand Birth year	Proposed Slash Treatment	The estimated year the stand would be in need of treatment
	BRUSH (Acres)	PCT (Acres)	PRUNE ¹ (Acres)					
34S-05W-15-008	25			Matrix / Riparian	RTR	1987	HP	2000
34S-05W-21-006	31			Matrix / Riparian	RTR	1987	HP	2000
34S-06W-23-006	22			Matrix / Riparian	RTR	1994	HP	2002
34S-06W-23-008		16		Matrix / Riparian	RTR	1991	HP	2005
35S-05W-07-001		20		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-07-002		91		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-07-003		148		Matrix / Riparian	RTR	1989	HP	2005
35S-05W-07-006		11		Matrix / Riparian	RMR	1991	HP	2005
35S-05W-07-007		17		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-07-008		67		Matrix / Riparian	RMR	1989	HP	2005
35S-05W-07-009		57		Matrix / Riparian	RTR	1990	HP	2005
35S-05W-07-010		44		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-07-013		18		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-09-001		12		Matrix / Riparian	RMR	1985	HP	2005
35S-05W-09-004*		84	84	Matrix / Riparian	RMR	1963	HP	2000
35S-05W-09-007*		60	60	Matrix / Riparian	RMR	1963	HP	2000
35S-05W-09-012	21			Matrix / Riparian	RTR	1994	HP	2000
35S-05W-09-013		14		Matrix / Riparian	RTR	1991	HP	2005
35S-05W-11-001		12		Matrix / Riparian	RMR	1980	HP	2000
35S-05W-11-003			14	Matrix / Riparian	RMR	1977		2000
35S-05W-11-004			18	Matrix / Riparian	RMR	1981		2000
35S-05W-11-005			9	Matrix / Riparian	RTR	1973		2000
35S-05W-11-007		11		Matrix / Riparian	RMR	1977	HP	2000
35S-05W-11-008		9		Matrix / Riparian	RMR	1980	HP	2000
35S-05W-11-010		13		Matrix / Riparian	RMR	1973	HP	2005
35S-05W-11-011		6		Matrix / Riparian	RMR	1981	HP	2005
35S-05W-11-012		5		Matrix / Riparian	RTR	1981	HP	2000
35S-05W-11-015			5	Matrix / Riparian	RMR	1982		2000
35S-05W-11-017		15		Matrix / Riparian	RTR	1982	HP	2005
35S-05W-11-018		21		Matrix / Riparian	RMR	1980	HP	2005
35S-05W-11-026		19		Matrix / Riparian	RMR	1990	HP	2005
35S-05W-11-027		16		Matrix / Riparian	RTR	1990	HP	2005
35S-05W-15-004		22		Matrix / Riparian	RTR	1968	HP	2005

TABLE A2-B-1: Summary of Proposed Silviculture Treatments in Early Seral Stands								
T-R-Sec - OI	Proposed Treatment			Land Alloc.	TPCC	Stand Birth year	Proposed Slash Treatment	The estimated year the stand would be in need of treatment
	BRUSH (Acres)	PCT (Acres)	PRUNE ¹ (Acres)					
35S-05W-15-006		31		Matrix / Riparian	RTR	1966	HP	2005
35S-05W-15-011		31		Matrix / Riparian	RTR	1987	HP	2005
35S-05W-15-012		34		Matrix / Riparian	RTR	1970	HP	2005
35S-05W-15-016	9			Matrix / Riparian	RTR	1985	HP	2005
35S-05W-15-017		15		Matrix / Riparian	RTR	1985	HP	2000
35S-05W-17-003		22		Matrix / Riparian	RTR	1946	HP	2002
35S-05W-21-005		18		Matrix / Riparian	RTR	1991	HP	2005
35S-05W-21-008		13		Matrix / Riparian	RTR	1991	HP	2005
35S-05W-29-004		25		Matrix / Riparian	RMR	1970	HP	2002
35S-05W-29-005		19		Matrix / Riparian	RMR	1970	HP	2002
35S-05W-33-014		11		Matrix / Riparian	RMR	1976	HP	2005
35S-06W-12-004	6			Matrix / Riparian	RSW**	1994	HP	2003
35S-06W-13-003		7		Matrix / Riparian	RTR	1990	HP	2005
35S-06-W-13-004	15			Matrix / Riparian	RTR	1993	HP	2003
Totals	129	1,034	191					
Footnotes: 1. There would be <u>no</u> pruning within the full riparian reserves. PCT -Precommercial thinning, Brush - remove brush species competing with planted seedlings, Prune - remove the lower limbs of trees pole size or larger TPCC (Timber Productivity Capability Classification): RTR - regeneration restricted due to hot temperatures and low soil moisture; RMR - regeneration restricted due to low soil moisture; RSW - withdrawn due to surface rock, HP -Hand Pile and burn * The map A-2 shows these units as harvest units. They have been identified for harvest of poles. They are uneven aged mosaic of young to mid seral age classes ** This TPCC withdrawn area was a portion of a unit planted after a wildfire in 1988.								

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
34S-05W-15-008	25					see Table B-1									
34S-05W-15-009	3					no treatment									
34S-05W-15-011	60					no treatment									
34S-05W-15-014	6					no treatment									
34S-05W-15-015	47					no treatment									
34S-05W-15-022	54					no treatment									
34S-05W-15-024	69					no treatment									
34S-05W-19-001	12					no treatment									
34S-05W-19-003	150					see Table B-3									
34S-05W-19-009	46					see Table B-3									
34S-05W-19-010	30	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS Rec. trail construction	20	50	30	UT, HP/B and/or UB,		30	7	210	0
34S-05W-19-011	51	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS Rec. Trail construction	20	10	70	UT, HP/B and/or UB		40	7	280	0
34S-05W-19-012	31					see Table B-3									
34S-05W-19-013	13	Matrix / VRM III	RTR/ RMR	Mature Pine	Mature DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		7	7	49	0
34S-05W-19-015	2					see Table B-3									
34S-05W-20-001	71	Matrix / VRM III/	RTR/ RMR	Mid DF	Mid DF	Harvest CT/MGS	20	20	60	UT, HP/B and/or UB		35	7	245	0
34S-05W-20-006	35					see Table B-3									
34S-05W-20-007	5					see Table B-3									
34S-05W-20-008	21	Matrix / VRM III	RTR/ RMR	Mid DF	Mid DF	Harvest / Regenerate stand (SR)	30	70		UT, HP/B and/or UB		21	2	42	21
34S-05W-20-994	11					no treatment									
34S-05W-21-001	46					no treatment									
34S-05W-21-002	79					no treatment									
34S-05W-21-003	28					no treatment									
34S-05W-21-004	19					no treatment									
34S-05W-21-005	280					no treatment									
34S-05W-21-006	31					see Table B-1									
34S-05W-21-007	30					no treatment									
34S-05W-21-009	13					no treatment									
34S-05W-29-001	135	Matrix / VRM III	RTR/ RMR	Mature Pine	Early Pine	Harvest / Regenerate stand (SR)/ CT/MGS	10		90	UT, HP/B and/or UB	50	50	2	100	50
34S-05W-29-002	21	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest /CT/MGS	20	20	60	UT, HP/B and/or UB		21	7	147	0

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
34S-05W-29-003	32	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		25	7	175	0
34S-05W-29-004	19					no treatment									
34S-05W-29-005	109	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / Regenerate stand (SR) /CT/MGS			100	UT, HP/B and/or UB Slashbuster		12	2	24	0
34S-05W-29-006	14	Matrix / VRM III	RTR/ RMR	Mature Pine	Mature Pine	Harvest /CT/MGS	50		50	UT, HP/B and/or UB Slashbuster		10	2	20	0
34S-05W-29-007	5	Matrix / VRM III	RTR/ RMR	Mature Pine	Mature Pine	Harvest /CT/MGS			100	UT, HP/B and/or UB Slashbuster		5	4	20	0
34S-05W-29-008	16	Matrix / VRM III	RTR/ RMR	Mid DF	Mid DF	Harvest / Regenerate stand (SR)/		100		UT, HP/B and/or UB Slashbuster	10		2	20	10
34S-05W-29-009	75					see Table B-3									
34S-05W-30-001	8					see Table B-3									
34S-05W-30-002	126	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS	30		70	UT ,HP/B and/or UB		100	7	700	0
34S-05W-30-003	46					see Table B-3									
34S-05W-30-004	65					see Table B-3									
34S-05W-30-005	6					see Table B-3									
34S-05W-30-006	23					see Table B-3									
34S-05W-30-007	94					see Table B-3									
34S-05W-30-008	120	Matrix / VRM III	RTR/ RMR	Mature DF	Early DF	Harvest / CT/MGS	50		50	UT, HP/B and/or UB Slashbuster	0	20	2.0	40	
34S-05W-30-009	5					see Table B-3									
34S-05W-31-001	40	Matrix / VRM III	RTR/ RMR	Mature Pine	Early Pine	Harvest / Regenerate stand (SR)/ CT/MGS		30	70	UT, HP/B and/or UB		20	3	60	0
34S-05W-31-002	26					see Table B-3									
34S-05W-31-003	3	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		30	70	UT, HP/B and/or UB		2	4	10	0
34S-05W-31-005	28	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS (it was formally part of 34- 5-31-001)		30	70	UT, HP/B and/or UB		9	5	45	
34S-05W-31-006	88	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS (it was formally part of 34- 5-31-001)		30	70	UT, HP/B and/or UB		70	7	490	
34S-06W-22-001	40	Matrix / VRM II	RTR/ RMR	Mature Pine	Mature Pine	Harvest / CT/MGS		50	50	UT, HP/B and/or UB		10	3	30	
34S-06W-23-001	10					see Table B-3									

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC¹	Seral Stage², Dominant Species ³		Proposed Silviculture Prescription and Treatments ⁴,⁵	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment⁵,⁸	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
34S-06W-23-006	25					see Table B-1									
34S-06W-23-007	25	Matrix / VRM II	RTR/ RMR	Late DF	Early DF	Harvest / Regenerate stand (SR)	50	50		UT, HP/B and/or UB	30		3	90	30
34S-06W-23-008	16					see Table B-1									
34S-06W-23-009	14					see Table B-3									
34S-06W-23-010	17					no treatment									
34S-06W-23-011	10					no treatment									
34S-06W-23-012	25					no treatment									
34S-06W-24-002	12					see Table B-3									
34S-06W-24-003	70					see Table B-3									
34S-06W-24-004	8					no treatment									
34S-06W-24-005	21					see Table B-3									
34S-06W-25-001	7					no treatment									
34S-06W-25-002	120					see Table B-3									
34S-06W-25-003	400					see Table B-3									
34S-06W-25-004	33					see Table B-3									
34S-06W-26-001	274					no treatment									
34S-06W-26-002	14	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		100		UT, HP/B and/or UB		10	10	20	0
34S-06W-26-003	60					see Table B-3									
34S-06W-26-004	6	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		100		UT, HP/B and/or UB		6	2	12	0
34S-06W-35-001	15					see Table B-3									
34S-06W-35-002	16					see Table B-3									
34S-06W-35-003	8					no treatment									
35S-05W-03-001	49					see Table B-3									
35S-05W-03-002	47					see Table B-3									
35S-05W-03-003	58					see Table B-3									
35S-05W-03-004	90					see Table B-3									
35S-05W-03-005	16					no treatment									
35S-05W-03-006	11					no treatment									
35S-05W-03-007	23					no treatment									
35S-05W-03-008	13					no treatment									
35S-05W-03-009	37					no treatment									
35S-05W-03-010	11					no treatment									
35S-05W-03-011	23					no treatment									
35S-05W-03-012	19					no treatment									

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-03-013	9					no treatment									
35S-05W-03-014	29					no treatment									
35S-05W-03-015	18					no treatment									
35S-05W-03-016	9					no treatment									
35S-05W-03-017	27					no treatment									
35S-05W-03-018	4					no treatment									
35S-05W-04-001	85	Matrix / VRM III	RTR/ RMR	Mature DF	Early DF	Harvest / Regenerate stand (SR) CT/MGS	25	50	25	UT, HP/B and/or UB	20	40	7	420	20
35S-05W-04-002	29	Matrix / VRM III	RTR/ RMR	Mature DF	Early DF	Harvest / Regenerate stand (SR) CT/MGS	25	50	25	UT, HP/B and/or UB	10	10	5	100	7
35S-05W-05-001	6					see Table B-3									
35S-05W-05-002	98	Matrix / VRM III	RTR/ RMR	Mature DF	Early DF	Harvest / Regenerate stand (SR) CT/MGS	50	20	30	UT, HP/B and/or UB		65	3	195	
35S-05W-05-003	7					see Table B-3									
35S-05W-05-994	9					no treatment(power line)									
35S-05W-07-001	20					see Table B-1									
35S-05W-07-002	91					see Table B-1									
35S-05W-07-003	148					see Table B-1									
35S-05W-07-004	75					no treatment									
35S-05W-07-006	11					see Table B-1									
35S-05W-07-007	17					see Table B-1									
35S-05W-07-008	67					see Table B-1									
35S-05W-07-009	57					see Table B-1									
35S-05W-07-010	44					see Table B-1									
35S-05W-07-011	71					no treatment									
35S-05W-07-012	2					no treatment									
35S-05W-07-013	18					see Table B-1									
35S-05W-07-014	10					no treatment									
35S-05W-08-001	157	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS /Regenerate stand (SR)	60	30	10	UT, HP/B and/or UB	50	50	3	300	
35S-05W-09-002	79	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS	20	30	50	UT, HP/B and/or UB		65	5	325	
35S-05W-09-003	58	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	No Harvest-owl core	0	0	0	none		0	0	0	
35S-05W-09-004	84	Matrix / /VRM III	RMR	Mid DF	Mid DF	Harvest / CT/MGS (also listed on Table B-1,mosiac, pole size material)	80	20		UT, HP/B and/or UB		50	1	50	

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-09-005	18	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS	100			UT, HP/B and/or UB		12	7	84	
35S-05W-09-006	18	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		100		UT, HP/B and/or UB		18	1	18	
35S-05W-09-007	60	Matrix/ Riparian Res/ VRM III	RMR	Mid DF	Mid DF	Harvest / CT/MGS (also listed on Table B-1, mosaic, pole size material)	50	50		UT, HP/B and/or UB		40	1	40	
35S-05W-09-008	12					see Table B-3									
35S-05W-09-009	19	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		100		UT,HP/B and/or UB		15	3	45	
35S-05W-09-010	13	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	no Harvest -owl core	0	0	0	none		0	0	0	
35S-05W-09-011	7					see Table B-3									
35S-05W-09-012	21					see Table B-1									
35S-05W-09-013	14					see Table B-1									
35S-05W-09-994	7					no treatment									
35S-05W-10-001	16					see Table B-3									
35S-05W-10-002	24	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		100		UT, HP/B and/or UB		20	2	40	0
35S-05W-11-001	12					see Table B-1									
35S-05W-11-003	14					see Table B-1									
35S-05W-11-004	18					see Table B-1									
35S-05W-11-005	9					see Table B-1									
35S-05W-11-006	16					see Table B-3									
35S-05W-11-007	11					see Table B-1									
35S-05W-11-008	9					see Table B-1									
35S-05W-11-009	14					see Table B-3									
35S-05W-11-010	13					see Table B-1									
35S-05W-11-011	6					see Table B-1									
35S-05W-11-012	5					see Table B-1									
35S-05W-11-013	17					see Table B-3									
35S-05W-11-014	29					see Table B-3									
35S-05W-11-015	5					see Table B-1									
35S-05W-11-016	20					see Table B-3									
35S-05W-11-017	15					see Table B-1									
35S-05W-11-018	21					see Table B-1									
35S-05W-11-019	6					no treatment									

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC¹	Seral Stage², Dominant Species ³		Proposed Silviculture Prescription and Treatments ⁴,⁸	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment⁵,⁸	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-11-020	13					no treatment									
35S-05W-11-021	13					no treatment									
35S-05W-11-022	37					see Table B-3									
35S-05W-11-023	22					see Table B-3									
35S-05W-11-024	133					see Table B-3									
35S-05W-11-025	70					see Table B-3									
35S-05W-11-026	19					see Table B-1									
35S-05W-11-027	16					see Table B-1									
35S-05W-11-028	19					no treatment									
35S-05W-11-900	12					no treatment(test plot)									
35S-05W-15-001	38	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		50	50	UT, HP/B and/or UB		20	3	60	0
35S-05W-15-002	109					see Table B-3									
35S-05W-15-003	22					no treatment									
35S-05W-15-004	22					see Table B-1									
35S-05W-15-005	44					no treatment									
35S-05W-15-006	31					see Table B-1									
35S-05W-15-009	28					see Table B-3									
35S-05W-15-010	95					see Table B-3									
35S-05W-15-011	31					see Table B-1									
35S-05W-15-012	34					see Table B-1									
35S-05W-15-013	26					no treatment									
35S-05W-15-014	53					no treatment									
35S-05W-15-015	61					see Table B-3									
35S-05W-15-016	9					see Table B-1									
35S-05W-15-017	15					see Table B-1									
35S-05W-15-018	24					no treatment									
35S-05W-17-001	16					see Table B-3									
35S-05W-17-002	90					see Table B-3									
35S-05W-17-003	22					see Table B-1									
35S-05W-17-004	40	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS	20	50	30	UT, HP/B and/or UB		40	7	280	0
35S-05W-17-005	30					see Table B-3									
35S-05W-18-001	35	Matrix / VRM III	RTR/ RMR	mid DF	mid DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		35	3	105	0
35S-05W-18-002	5					no treatment									

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments ^{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-19-001	79	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS		50	50	UT, HP/B and/or UB		40	2	80	
35S-05W-19-002	39					see Table B-3									
35S-05W-19-003	23					see Table B-3									
35S-05W-19-004	10	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		10	3	30	
35S-05W-19-005	15					see Table B-3									
35S-05W-19-006	18					see Table B-3									
35S-05W-19-007	16	Matrix / VRM II	RTR/ RMR	Mid Pine	Mid Pine	Harvest / CT/MGS			100	UT, HP/B and/or UB		10	2	20	
35S-05W-20-001	56					see Table B-3									
35S-05W-20-002	30	Matrix / VRM III	RTR/ RMR	Late Pine	Early Pine	Harvest / Regenerate stand (SR)		100		UT, HP/B and/or UB	30		5	150	30
35S-05W-20-003	70					see Table B-3									
35S-05W-21-001	102					no treatment									
35S-05W-21-002	118	Matrix / VRM III	RTR/ RMR	Late DF	Early DF	Harvest / Regenerate stand (SR)	50	50		UT, HP/B and/or UB	30		7	210	30
35S-05W-21-003	20					see Table B-3									
35S-05W-21-004	11					see Table B-3									
35S-05W-21-005	18					see Table B-1									
35S-05W-21-006	11					see Table B-3									
35S-05W-21-007	105					see Table B-3									
35S-05W-21-008	13					see Table B-1									
35S-05W-21-009	13					no treatment									
35S-05W-21-010	25					no treatment									
35S-05W-21-011	20					no treatment									
35S-05W-21-012	45					no treatment									
35S-05W-21-994	24					no treatment									
35S-05W-28-001	59					no treatment									
35S-05W-28-002	14					no treatment									
35S-05W-28-994	7					no treatment(power line)									
35S-05W-29-001	23					see Table B-3									
35S-05W-29-002	6	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest CT/MGS			100	UT, HP/B and/or UB		6	3	9	
35S-05W-29-003	122					see Table B-3									
35S-05W-29-004	25					see Table B-1									
35S-05W-29-005	19					see Table B-1									

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-29-006	26	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest CT/MGS		50	50	UT, HP/B and/or UB		15	7	105	
35S-05W-29-007	25	Matrix / VRM III	RTR/ RMR	Mature DF	early DF	Harvest / Regenerate stand (SR)	10	60	30	UT, HP/B and/or UB	20		5	100	20
35S-05W-29-008	169	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest in areas with merch sizes CT/MGS	30	50	20	UT, HP/B and/or UB		80	7	560	
35S-05W-29-009	16	Matrix / VRM III	RTR/ RMR	Mature DF	Early DF	Harvest / Regenerate stand (SR)		100		UT, HP/B and/or UB	15		7	105	
35S-05W-29-010	12	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS	50	50		UT, HP/B and/or UB		12	2	24	
35S-05W-31-001	46	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		35	4	140	
35S-05W-31-002	26	Matrix / VRM II	RTR/ RMR	Mature DF	Mature DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		22	4	44	
35S-05W-31-003	5	Matrix / VRM II	RTR/ RMR	Mid DF	Mid DF	Harvest / CT/MGS			100	UT, HP/B and/or UB		5	4	40	
35S-05W-31-004	203	Matrix / VRM II				see Table B-3									
35S-05W-32-001	100					no treatment									
35S-05W-32-002	42					no treatment									
35S-05W-32-003	18					no treatment									
35S-05W-33-001	28					no treatment									
35S-05W-33-002	12					see Table B-3									
35S-05W-33-003	9					see Table B-3									
35S-05W-33-004	84	Matrix / VRM III	RTR/ RMR	Mature Pine	Mature DF	Harvest CT/MGS	30	30	40	UT, HP/B and/or UB		40	5	200	
35S-05W-33-005	12					see Table B-3									
35S-05W-33-006	49					see Table B-3									
35S-05W-33-007	35	Matrix / VRM III	RMR /RTR	Mature DF	Mature DF	Harvest CT/MGS	50	50		UT, HP/B and/or UB		30	7	210	
35S-05W-33-008	67	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest CT/MGS	20	60	20	UT, HP/B and/or UB		60	6	360	
35S-05W-33-009	59					see Table B-3									
35S-05W-33-010	134	Matrix/ Riparian Res /VRM III	RTR/ RMR	Mid DF	Mid DF	Harvest CT/MGS	30	30	40	UT, HP/B and/or UB		70	7	490	

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
35S-05W-33-011	40					no treatment									
35S-05W-33-012	17					no treatment									
35S-05W-33-013	17					see Table B-3									
35S-05W-33-014	11					see Table B-1									
35S-05W-33-994	28					no treatment (powerline)									
35S-05W-33-997	4					no treatment (powerline)									
35S-05W-34-001	5					no treatment									
35S-05W-34-002	50					no treatment									
35S-05W-34-003	42					no treatment									
35S-05W-34-004	59	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest CT/MGS			100	UT, HP/B and/or UB		50	7	350	
35S-05W-34-005	21	Matrix / VRM III	RTR/ RMR	Mature DF	Mature DF	Harvest CT/MGS			100	UT, HP/B and/or UB		15	3	45	
35S-05W-34-006	25					no treatment									
35S-06W-01-001	55					no treatment									
35S-06W-01-002	84					no treatment									
35S-06W-01-003	336					no treatment									
35S-06W-01-004	11					no treatment									
35S-06W-01-005	46					no treatment									
35S-06W-12-001	29					no treatment									
35S-06W-12-002	85					no treatment									
35S-06W-12-003	41					no treatment									
35S-06W-12-004	5					see Table B-1									
35S-06W-13-001	166					no treatment									
35S-06W-13-002	12					no treatment									
35S-06W-13-003	7					see Table B-1									
35S-06W-13-004	15					see Table B-1									
						Percentage of Each Logging System	20	35	45	Total acres by Cutting Method	271	1483	planting acres	218	
Total harvest acres	2847					Total Acres of Each Logging System	351	622	794	Total acres of harvest Area	1754		Total MBF	8163	

TABLE B-2: Summary of Treatments for all units in the project area

Note: Shaded units indicate those in which there is a difference between Alternative 2 and Alternative 3.

T-R-SEC-OI	total Unit Ac.	NFP land allocation/ VRM class/ other	TPCC ¹	Seral Stage ² , Dominant Species ³		Proposed Silviculture Prescription and Treatments _{4,8}	Logging Systems by approx % of unit ⁷			Proposed Slash Treatment and/or Understory Treatment ^{5,8}	Est. Harvest Volume (MBF)				Tree Plant Acres
				Current	Post Harvest		Tractor	Cable	Heli- copter		Harv./Treat. Acres ⁶		Vol / Ac	Total MBF	
											SR	CT/ MGS			
Footnotes: 1) TPCC (Timber Productivity Capability Classification): RTR - regeneration restricted due to hot temperatures and low soil moisture; RMR- regeneration restricted due to low soil moisture. RTW Withdrawn due to hot temperatures 2) Stand Seral Stage: (Typical of many units in the forests of southwest Oregon, a unit may be fairly heterogeneous with regards to vegetation type, structure, ages and ecological processes. The seral stage indicated here is a generalize description of the unit.) Early - Vegetation is dominated by shrubs or conifers and hardwood trees in a seedling/ sapling size class (<5"DBH) Mid - Vegetation is tree dominated. Trees at least small pole size (>4"DBH). Larger scattered trees may be present. Mature - Forest has begun to differentiate into distinct canopy layers. Overstory dominant and codominant trees are conifers greater than 20" DBH, understory trees will be conifer-hardwood mix. Old Growth - Stand is multilayered and has at least two distinct canopy layers. Large conifer trees greater than 35" DBH number 8+/ac. 3) Dominant Species: DF = Douglas-fir 4) Treatments: CT/MGS - Commercial Thin/Modified Group Selection SR-Structural Retention 5) Slash/Understory Treatments: UT-Understory Thinning HP/B-Hand Pile and Burn UB-Underburn 6) Harvest acres vs. Unit acres: The difference in these acreages is attributable to large variability within the unit, unit inclusions of riparian reserves, non-forest, etc. 7) Logging systems may vary if operator has obtained permission to use private property for access. 8) Some variation of prescriptions and treatments may occur within a unit in response to (and to capitalize on) stand and site variations within the unit															

TABLE B-3: Summary of Proposed Silviculture Prescription - Fuels

T-R-Sec-OI	Unit Acres	Land Alloc.	TPCC	Silv. Prescription/Treatment Objectives	Treatment Acres	Proposed Vegetation Treatment	Proposed Prescribe Burn Treatment
34S-05W-19-003	150	Matrix / Riparian	LSW	Wildlife Burn - FHRA	150		BCB
34S-05W-19-009	46	Matrix / Riparian	FNNW	Wildlife Burn	46		BCB
34S-05W-19-012	31	Matrix / Riparian	FNNW	Wildlife Burn - FHRA	31	UT	BCB, HP/B
34S-05W-19-015	2	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	2	UT	HP/B
34S-05W-20-006	35	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	35	UT	UB, HP/B
34S-05W-20-007	5	Matrix / Riparian	FNNW	Fuel Hazard Reduction Area	5	UT	HP/B
34S-05W-29-009	75	Matrix / Riparian	RTR	Fuel Hazard Reduction Area, RIA	75	UT	HP/B
34S-05W-30-001	8	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	8	UT	HP/B
34S-05W-30-003	46	Matrix / Riparian	LSW	Wildlife Burn	46		BCB
34S-05W-30-004	65	Matrix / Riparian	FNNW	RIA	20	UT	HP/B
34S-05W-30-005	6	Matrix / Riparian	LSW	RIA	6	UT	HP/B
34S-05W-30-006	23	Matrix / Riparian	FNNW	Wildlife Burn	23		BCB
34S-05W-30-007	94	Matrix / Riparian	LSW	Wildlife Burn, RIA, FHRA	94	UT	BCB, HP/B
34S-05W-30-009	5	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	5	UT	HP/B
34S-05W-31-002	25	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	25	UT	HP/B
34S-06W-23-001	14	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	14		UB
34S-06W-23-009	10	Matrix / Riparian	LSW	Wildlife Burn	10		BCB
34S-06W-24-002	12	Matrix / Riparian	FNNW	Fuel Hazard Reduction Area	12	UT	HP/B
34S-06W-24-003	70	Matrix / Riparian	LSW	Wildlife Burn, FHRA	70	UT	BCB, HP/B
34S-06W-24-005	21	Matrix / Riparian	FNNW	Fuel Hazard Reduction Area	21	UT	HP/B
34S-06W-25-002	120	Matrix / Riparian	FNNW	RIA	5	UT	HP/B
34S-06W-25-003	400	Matrix / Riparian	LSW	RIA	50	UT	HP/B
34S-06W-25-004	33	Matrix / Riparian	FNNW	RIA	15	UT	HP/B
34S-06W-26-003	60	Matrix / Riparian	FNNW	Fuel Hazard Reduction Area	60	UT	HP/B
34S-06W-35-001	15	Matrix / Riparian	LSW	Fuel Hazard Reduction Area, RIA	15	UT	HP/B
34S-06W-35-002	16	Matrix / Riparian	LSW	Fuel Hazard Reduction Area, RIA	16	UT	HP/B, slashbuster
35S-05W-03-001	49	Matrix / Riparian	RTR	Fuel Hazard Reduction Area	49	UT	HP/B
35S-05W-03-002	47	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	47	UT	HP/B
35S-05W-03-003	58	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	35	UT	HP/B
35S-05W-03-004	90	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	45	UT	HP/B
35S-05W-05-001	6	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	6	UT	HP/B, slashbuster
35S-05W-05-003	7	Matrix / Riparian	RSW	RIA	7	UT	HP/B
35S-05W-09-008	12	Matrix / Riparian	RSW	Fuel Hazard Reduction Area	12	UT	HP/B, slashbuster
35S-05W-09-011	7	Matrix / Riparian	RSW	Fuel Hazard Reduction Area	7	UT	HP/B, slashbuster
35S-05W-10-001	16	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	16	UT	UB

TABLE B-3: Summary of Proposed Silviculture Prescription - Fuels

T-R-Sec-OI	Unit Acres	Land Alloc.	TPCC	Silv. Prescription/Treatment Objectives	Treatment Acres	Proposed Vegetation Treatment	Proposed Prescribe Burn Treatment
35S-05W-11-006	16	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	16	UT	HP/B
35S-05W-11-009	14	Matrix / Riparian	RMW	Fuel Hazard Reduction Area	14	UT	UB, HP/B
35S-05W-11-013	17	Matrix / Riparian	RMW	Fuel Hazard Reduction Area	17	UT	UB, HP/B
35S-05W-11-014	29	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	29	UT	UB, HP/B
35S-05W-11-016	20	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	20	UT	UB, HP/B
35S-05W-11-022	37	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	20	UT	HP/B
35S-05W-11-023	22	Matrix / Riparian	RMW	Fuel Hazard Reduction Area	22	UT	UB, HP/B
35S-05W-11-024	133	Matrix / Riparian	RMW	Fuel Hazard Reduction Area	65	UT	UB, HP/B
35S-05W-11-025	70	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	70	UT	HP/B
35S-05W-15-002	109	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	50	UT	HP/B
35S-05W-15-009	28	Matrix / Riparian	RTR	Fuel Hazard Reduction Area	28	UT	HP/B
35S-05W-15-010	95	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	95	UT	HP/B
35S-05W-15-015	61	Matrix / Riparian	RTR	Fuel Hazard Reduction Area	40	UT	HP/B
35S-05W-19-002	39	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	20	UT	HP/B
35S-05W-19-003	23	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	10	UT	HP/B
35S-05W-19-005	15	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	15	UT	HP/B
35S-05W-19-006	18	Matrix / Riparian	LSW	Fuel Hazard Reduction Area	18	UT	HP/B
35S-05W-20-001	56	Matrix / Riparian	RTW	Fuel Hazard Reduction Area, RIA	56	UT	HP/B
35S-05W-20-003	70	Matrix / Riparian	FNNW	Fuel Hazard Reduction Area, RIA	70	UT	HP/B
35S-05W-21-003	20	Matrix / Riparian	RSW	Fuel Hazard Reduction Area	10	UT	HP/B
35S-05W-21-006	11	Matrix / Riparian	NU	Fuel Hazard Reduction Area, RIA	11	UT	HP/B
35S-05W-21-007	105	Matrix / Riparian	RTW	Fuel Hazard Reduction Area, RIA	65	UT	HP/B
35S-05W-29-001	23	Matrix / Riparian	LSW	Fuel Hazard Reduction Area, RIA	23	UT	HP/B, slashbuster
35S-05W-29-003	122	Matrix / Riparian	RTR/RMR	Fuel Hazard Reduction Area	122	UT	HP/B
35S-05W-33-002	17	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	10	UT	HP/B
35S-05W-33-003	9	Matrix / Riparian	RTW	Fuel Hazard Reduction Area	6	UT	HP/B
35S-05W-33-006	49	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	20	UT	HP/B
35S-05W-33-009	59	Matrix / Riparian	RTW	Fuel Hazard Reduction Area, RIA	45	UT	HP/B
35S-05W-33-013	17	Matrix / Riparian	RMR	Fuel Hazard Reduction Area	5	UT	HP/B
Total Unit Acres	2,983			Total Treatment Acres	2,075		

Footnotes and acronyms:

Prescription objectives and treatments: **UT** - *Understory Thinning* - understory thin vegetation to less than 7" DBH spacing widths ranging from 15' to 45'. **HP/B** - *Hand pile and burn slash* 1" to 6" x 2', cover, and burn piles. **BCB** - *Broad cast Burn* **UB** - *Underburn* - mosaic or spot burn under reserved overstory. **NONE** - *no treatment* at this time is recommended. **FHRA** - *Fuel Hazard Reduction Area* - area where understory thinning (UT), hand pile and burn (HP/B) and underburning (UB) would occur to reduce the impacts of wildland fire. **RIA** - *Rural Interface Area* - treatments similar to FHRA concentrated along BLM and private property boundary lines. **Wildlife Burn** - wildlife enhancement and meadow restoration using understory thinning (UT) and underburning (UB).

TPCC(Timber Productivity Capability Classification); **RTR** - regeneration restricted due to hot temperatures and low soil moisture; **RMR** - regeneration restricted due to low soil moisture;

RTW - withdrawn due to hot temperatures; **RSW** - withdrawn due to surface rock; **LSW** - withdrawn due to low site; **FNR** - regeneration restricted due to imbalanced nutrients (serpentine);

T-R-Sec-OI	Acres	Alloc.	TPCC	Prescription/Treatment Objectives	Treatment Acres	Treatment	Proposed Prescribe Burn Treatment
FNNR - withdrawn fragile site nutrients.							

Appendix C: Road Information, additions and revisions to the EA Table C

(See EA Table C for other road information)

Addendum #2, Table C (revised portions only): Proposed Road Use, Construction, Renovation, Improvement, Maintenance and Closures of Roads used for Haul									
Road Number/ Road Segment	Road Control	Total Length (miles)	Current Condi- tion / Surface	Miles of Proposed Treatment:				COMMENTS	Road Closures
				Mainte- nance	Const- ruction	Renova- tion	Decom- mission		
35-5-4.4A	BLM	0.30	NAT	0.30	H	0.30		Construct Helicopter Landing in NE corner of Section 8	Earth Barricade
35-5-4.4B Operator spur	BLM	0.80	NAT	0.80		0.80	0.80	Open existing road for operator spur and decommission after logging operations The road would be blocked and decommissioned after logging operations are complete. The natural water flow pattern would be restored. Harvest activities and road work would be completed in one season.	Block/decommission
Operator spur within unit 35-5-8-001	BLM	0.2	NAT		0.2		0.2	Construct temp spur to access landings off of the end of 35-5-4.4B. Block and decommission after logging operations are complete. Harvest activities and road work and decommissioning would be completed in one season.	Block/decommission
Other operator spurs as shown on the revised Map A-2	BLM	0.4	NAT		0.4		0.4	Full Decommissioning as described below	Block/decommission
35-5-20.1	BLM	1.56	NAT	1.56				The road passes through 3 riparian reserve areas within ½ mile of coho critical	See footnote ¹
35-5-20A	BLM	0.10	NAT	0.10				Under M1538 agreement The road passes through 1 riparian reserve area within ½ mile of coho critical habitat.	See footnote ¹
35-5-20B	PVT	0.19	NAT	0.19				The road passes through 1 riparian reserve areas within ½ mile of coho critical habitat.	See footnote ¹
35-5-26.2A	BLM	2.07	ASC	2.07				The road passes through 2 riparian reserve areas within ½ mile of coho critical habitat.	See footnote ¹
35-5-26	BLM	approx 0.1	ASC	approx 0.1				The road passes through 1 riparian reserve areas within ½ mile of coho critical habitat.	See footnote ¹
35-5-21A	BLM	1.67	BST	1.67				The road passes through 4 riparian reserve areas within ½ mile of coho critical habitat.	See footnote ¹

Addendum #2, Table C (revised portions only): Proposed Road Use, Construction, Renovation, Improvement, Maintenance and Closures of Roads used for Haul

Road Number/ Road Segment	Road Control	Total Length (miles)	Current Condi- on / Surface	Miles of Proposed Treatment:				COMMENTS	Road Closures
				Mainte- nance	Const- ruction	Renova- tion	Decom- mission		
Footnotes: BST =Bituminous Surface Treatment ASC = Aggregate Surface Coarse GRR = Grid Rolled Rock PRR = Pit Run Rock NAT = Natural Surface H = Construct Helicopter landing (approx. 100' x 200')									
<i>Maintenance</i> may include surface grading, roadside brushing, for safety, spot rocking and maintaining existing drainage structures. Maintenance of natural surface roads may also include correcting drainage and erosion problems (e.g., improving or installing drainage dips, installing other drainage structures where needed, eliminating outside road edge berms or other features that are obstructing drainage where they exist).									
<i>Full Decommissioning</i> consists of subsoil ripping of the roadbed to promote the establishment of vegetation and promote drainage consistent with the surrounding undisturbed areas. Existing culverts may be removed. Grass seeding of the road prism, fill slope and cutbank, and mulching of the Road prism may be included to minimize initial erosion potential prior to natural revegetation. An earth berm/tank trap barricade may be constructed at the beginning of each road to prevent use of the road prism following decommissioning.									
<i>Road Renovation</i> consists of reconditioning and preparing the subgrade for heavy truck use, cleaning and shaping drainage ditches and structures, and trimming or removing vegetation from cut and fill slopes.									
<i>¹Road Maintenance work scheduled for selected roads near Coho critical habitat</i> In the June of 2003, the BLM road maintenance crew is scheduled to conduct annual road maintenance on the following roads: 35-5-20A, 35-5-20B, 35-5-20.1, 35-5-26, 35-5-26.2, 35-5-21A. This work may include surface grading, spot rocking and maintaining existing drainage structures.									
Maintenance of natural surface roads may also include correcting drainage and erosion problems (e.g., improving or installing drainage dips, installing other drainage structures where needed, eliminating outside road edge berms or other features that are obstructing drainage where they exist). Also road segments that pass through riparian reserve areas that are within ½ mile of Coho critical habitat would be chip sealed or prepared for lignin sulfate treatments.									
In order to prevent damage to riparian resources, these road crossings would be treated prior to haul and haul traffic would be restricted to dry weather haul only. Road segments that pass through riparian reserve areas that are within ½ mile of Coho critical habitat on Roads 35-5-26 and 35-5-26.2 would be chip sealed (from the junction of Road 35-5-21 and Road 35-5-26 to M.P. 0.09 of Road 35-5-26.2, for a total length of 0.19 miles).									
Due to current road surface type and anticipated traffic volume, a 300 ft. segment of Road 35-5-20.1 at M.P. 0.12 that pass through riparian reserve areas and is within ½ mile of coho critical habitat would be treated with lignin sulfate. Other segments on Road 35-5-20A and 35-5-20B would not be treated with lignin sulfate due to the fact the existing road surface type is hardened with pit run material and there is not a sediment transport system during dry weather haul periods. The road segments of Road 35-5-21A that pass through riparian reserve areas that are within ½ mil of Coho Critical habitat are already chip sealed therefore no addition hardening of the road surface would be required.									